



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

### Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

### About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

LANE MEDICAL LIBRARY STANFORD



2 45 0417 6513

LANE

ALL



LIBRARY

LEVI COOPER LANE FUND

PRESENTED TO

The New York Academy of Medicine.



By

The Society of the New York Hospital,

March, 1898.

Compliments of

"THE STATE BOARD OF HEALTH AND VITAL STATISTICS OF  
THE COMMONWEALTH OF PENNSYLVANIA."

1532 PINE STREET, PHILADELPHIA.

BENJAMIN LEE, M. D.,  
Secretary.



**LANE**

**MEDICAL**



**LIBRARY**

**LEVI COOPER LANE FUND**

PRESENTED TO

**The New York Academy of Medicine.**



By

**The Society of the New York Hospital,**

**March, 1898.**

Compliments of

"THE STATE BOARD OF HEALTH AND VITAL STATISTICS OF  
THE COMMONWEALTH OF PENNSYLVANIA."

1532 PINE STREET, PHILADELPHIA.

BENJAMIN LEE, M. D.,  
Secretary.

1

2

3

4

5

6

7

8

9





# THIRD ANNUAL REPORT

OF THE

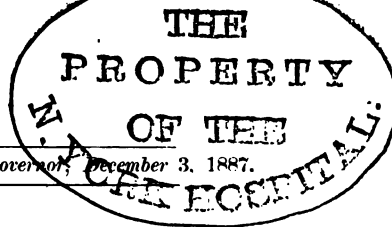
## STATE BOARD OF HEALTH

AND  
VITAL STATISTICS

## VITAL STATISTICS

OF THE

COMMONWEALTH OF PENNSYLVANIA.



*Transmitted to the Governor, December 3, 1887.*

HARRISBURG:

EDWIN K. MEYERS, STATE PRINTER.

1888.

YABULI ZHAU



## TABLE OF CONTENTS.

### Report and Minutes.

	Page.
Report of the Secretary, . . . . .	7
Minutes of the Board, . . . . .	13
Financial reports, . . . . .	33
Catalogue of books and pamphlets received, . . . . .	35

### Appendices.

Appendix A. Reports of standing committees, . . . . .	45
1. Executive Committee, . . . . .	45
2. On Registration, etc., . . . . .	46
3. On Preventable Diseases, etc., . . . . .	46
4. On Water Supply, Drainage, etc., . . . . .	48
5. On Adulterations, etc., . . . . .	49
6. On Sanitary Legislation, etc., . . . . .	50
Appendix B. Reports of Inspectors, . . . . .	53
1. Report of an Inspection of Camp Hancock, by W. B. Atkin- son, M. D., Medical Inspector, with Extracts from Re- ports of Acting Medical Officers, . . . . .	54
2. Report of Inspections at Unionville, etc., by W. B. Atkin- son, M. D., Medical Inspector, . . . . .	61
3. Report of an Inspection at West Conshohocken, by W. B. Atkinson, M. D., Medical Inspector, . . . . .	63
4. Report of an Inspection of a Bone Boiling Establishment at Sellersville, by W. B. Atkinson, M. D., Medical Inspector, . . . . .	—
5. Report of an Inspection of Drainage of Altoona and Alle- gheny Furnace, Blair county, by C. B. Dudley, M. D., Medical Inspector, . . . . .	66
6. Report of an Inspection at Bryn Mawr, by W. B. Atkinson, M. D., Medical Inspector, . . . . .	68
7. Reports of Inspections at Fernwood, by W. B. Atkinson, M. D., Medical Inspector, . . . . .	69
8. Inspection at Lansdowne, by W. B. Atkinson, M. D., Medi- cal Inspector, . . . . .	70
9. Report of an Inspection at Natrona, by L. H. Hunter, In- spector, . . . . .	70
10. Report of an Inspector at Chartiers, by L. H. Hunter, In- spector, . . . . .	71
11. Report of an Inspection at Troy, by E. D. Payne, M. D., Medical Inspector, . . . . .	72
12. Report of an Inspection at Shenandoah, by D. J. McKibben, M. D., Medical Inspector, . . . . .	74
13. Report of an Inspection at Gunner's Run, by W. B. Atkin- son, M. D., Medical Inspector, . . . . .	76
14. Report of an Inspection of the Executive Mansion at Har- risburg, by Benjamin Lee, M. D., Secretary, . . . . .	77
15. Report of an Inspection at Derry, by L. H. Hunter, Inspec- tor, . . . . .	81
16. Report of an Inspection at General Wayne, by Benjamin Lee, M. D., Secretary, . . . . .	83

A—BOARD OF HEALTH.



	Page.
Appendix B. 17. Report of an Inspection at Tarentum, by L. H. Hunter, Inspector, . . . . .	84
18. Report of an Inspection of the County Jail at Carlisle, by R. Lowry Sibbet, M. D., Medical Inspector, . . . . .	85
19. Report of an Inspection at Covington, by E. D. Payne, M. D., Medical Inspector, . . . . .	88
Appendix C. Annual reports of cities and towns, . . . . .	91
1. Annual report of the Health Officer of Erie, . . . . .	91
2. Annual report of the Health Officer of Corry, . . . . .	95
3. Annual report of the Health Officer of Scranton for the 1886, . . . . .	95
4. Mortuary tables of the city of Philadelphia, for the year 1887, by William B. Atkinson, M. D., Medical Inspector, . . . . .	101
5. Extracts from the Fifteenth Annual Report of the Board of Health of Reading, for 1886, . . . . .	107
Appendix D. Bills introduced into the Legislature, or supported by the Committee on Sanitary Legislation, session of 1887, . . . . .	119
A. Bills which passed :	
1. An Act to provide for the Printing and Binding of the Annual Report, . . . . .	119
2. An Act to provide for the Current Expenses of the Board, . . . . .	120
3. A Joint Resolution authorizing the Printing of the Compendium of Sanitary Laws, . . . . .	120
4. Act establishing Boards of Health in Cities containing a population of less than 75,000, . . . . .	121
B. Bills which failed to pass :	
5. An Act to provide for the Employment of an Additional Clerk in the Department of Internal Affairs, . . . . .	123
6. An Act to provide for State Registration of Marriages, . . . . .	124
7. An Act to establish County Boards of Health, . . . . .	125
8. An Act to prevent Pollution of Water and Air, . . . . .	129
9. An Act to regulate the Transportation and Storage of Dynamite and other Explosives, . . . . .	130
10. An Act to prevent Traffic in Impure, Adulterated and Unwholesome Milk, . . . . .	131
Appendix E. Reports of Conferences and Conventions, . . . . .	134
1. Report of a Conference on Infectious Diseases of Domestic Animals, by B. Lee, M. D., Secretary, . . . . .	135
2. Hygienic Report of the Ninth International Congress, . . . . .	163
3. Report of the Secretary as Delegate to the National Conference of State Boards of Health, . . . . .	164
4. Proceedings of the National Conference of State Boards of Health, 1887, . . . . .	167
Appendix F. Circulars, Forms and Regulations, . . . . .	203
1. Precautions against Typhoid Fever, . . . . .	203
2. Precautions against Diphtheria, . . . . .	209
3. Precautions against Contagious and Infectious Diseases, . . . . .	214
4. Precautions against Scarlet Fever, . . . . .	219
5. Precautions against Trichinosis, . . . . .	225
6. Recommendations in Regard to Care of Infants, . . . . .	229
7. To the Medical Profession, on Typhoid Fever, . . . . .	233
8. Transfer Permit, . . . . .	238
9. Inter-State Notification, . . . . .	239
10. Letter Accompanying Order for Abatement, . . . . .	239
11. Letter in Reply to Private Complaint, . . . . .	240
12. Letter to Physicians Requesting Returns, . . . . .	241
13. Regulation of Travel and Traffic, . . . . .	241
14. Regulation in Regard to Inter-State Notification, . . . . .	243

	Page.
Appendix G. Annual Address, by E. A. Wood, M. D., . . . . .	245
Appendix H. Quarantine, Epidemics and Special Sources of Diseases, . . . .	258
1. Report on Quarantine of the Delaware River, . . . . .	258
A. National Quarantine—Correspondence between the Secretary and Dr. Bailhache, of the U. S. Marine Hospital Service, . . . . .	258
B. Quarantine at Philadelphia—Letter to the Philadelphia Board of Health from the Secretary, . . . . .	264
2. Report of the Committee of the College of Physicians of Philadelphia, appointed to Investigate the Efficiency of our Quarantine Arrangements for the Exclusion of Chol- era and other Epidemic Diseases, . . . . .	265
3. Inter-State Notification, Benjamin Lee, M. D., . . . . .	279
4. Glanders in Philadelphia, Benjamin Lee, M. D., . . . . .	280
5. Trichinosis in and near Erie, by Edward William Germer, M. D., President State Board of Health, . . . . .	281
6. Report of Special Committee on Sewerage for the East End, Pittsburgh, . . . . .	283
7. Report on Poisoning by Chrome Yellow in Buns, in Phila- delphia, by D. D. Stewart, M. D., of Philadelphia, . . . .	289
Appendix I. Correspondence, . . . . .	308
1. Correspondence in Relation to the Interpretation of the Law in regard to Health Officers, . . . . .	308
2. Letter in Reference to the Water Supply of Scranton, . . . .	304
3. Letter to the Health Officer of Pittsburgh in Reference to the Transportation of Dead Bodies, . . . . .	305
4. Letter from the General Baggage Agent of the Pennsylvania Railroad Company in Reference to the Transportation of Dead Bodies, . . . . .	306
5. Correspondence in Reference to the Prevalence of Epizootic Spinal-Meningitis in New Jersey, . . . . .	308
Appendix K. Complaints on which action was taken during the year 1887, .	311
1. Rose Glen, Montgomery county, . . . . .	311
2. Tarentum, Allegheny county, . . . . .	311
3. Derry, Westmoreland county, . . . . .	311
4. Chester, Delaware county, . . . . .	311
5. Lansdowne, Delaware county, . . . . .	311
6. Natrona, Allegheny county, . . . . .	311
7. Bryn Mawr, Montgomery county, . . . . .	312
8. Chartiers, Allegheny county, . . . . .	312
9. Fernwood, Delaware county, . . . . .	312
10. Allegheny Furnace, Blair county, . . . . .	312
11. Troy, Bradford county, . . . . .	312
12. Covington, Tioga county, . . . . .	312
13. Scottsdale, Westmoreland county, . . . . .	312
14. West Brownsville, Westmoreland county, . . . . .	312
15. Homestead, Allegheny county, . . . . .	312
16. Worfordsburg, Westmoreland county, . . . . .	312
17. St. Mary's, Elk county, . . . . .	312
18. Hulmeville, Bucks county, . . . . .	312
19. Conshohocken, Montgomery county, . . . . .	312
20. Unionville, &c., Chester county, . . . . .	312
21. Sellersville, Bucks county, . . . . .	312
Appendix L. Constitution, By-Laws, Organization and Regulations of the Board, . . . . .	313



THIRD ANNUAL REPORT  
OF THE  
STATE BOARD OF HEALTH.

---

STATE BOARD OF HEALTH,  
EXECUTIVE OFFICE,  
*December 3, 1887.*

To His Excellency JAMES A. BEAVER, *Governor.*

SIR: In compliance with the provisions of section ten of the "Act to establish a State Board of Health, for the better protection of life and health, and to prevent the spread of contagious and infectious diseases in this Commonwealth," approved June 3, 1885, I have the honor to transmit the third annual report of the Board, for the year ending December 1, 1887.

BENJAMIN LEE,  
*Secretary.*



**RESOLUTION OF THE BOARD RELATIVE TO PAPERS PUBLISHED  
IN ITS ANNUAL REPORT, ADOPTED JULY 2, 1885.**

---

*Resolved.* That no papers shall be published in the annual report of this Board, except such as are approved for the purposes of such publication by a majority of the members of the Board, and that any such paper shall be published over the signature of the writer, who shall be considered as entitled to the credit of its production, as well as responsible for the statement of facts reported and the opinions expressed therein.



PART I.

---

REPORT AND MINUTES.





## REPORT OF THE SECRETARY.

---

TO HON. DAVID ENGELMAN, M. D., *President of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania:*

SIR: In presenting his third annual report in compliance with the by-laws of the Board and with the provisions of the act which creates it, the Secretary hesitates between first offering expressions of congratulation on the excellent state of the public health during the past year, or of condolence on the great loss which the Board has sustained in the death of its first president. He may perhaps be pardoned if he yields to the impulse of his heart rather than to the exact requirements of official routine and asks you to unite with him for a moment in recalling the eminent virtues of our deceased friend and coadjutor from a sanitarian's standpoint. The fact that the secretary and himself had been fellow-students in the University of Vienna, established at the outset a bond of sympathy between them which further intimacy only served to strengthen, and afforded the former an unusual opportunity for judging of his true character.

His imperfect knowledge of English and his strong accent, coupled with a certain abruptness of manner, made it difficult for casual acquaintances to appreciate his many excellencies, and such persons rarely penetrated beyond the somewhat prickly husk which concealed the kernel of his generous nature. The fact that he was exiled from his native land for engaging in revolutionary projects sufficiently attests his courage, zeal and faithfulness to his convictions. He was a thoroughly educated man, having a good knowledge of Latin and French and having gone successfully through the severe curriculum of the German medical schools. His attention as a student was called to the then infant science of hygiene and he attended assiduously the lectures of the earliest professor of that branch in Europe. His fellow-citizens, in the land of his adoption, were not slow in recognizing his abilities, and he was called to the responsible position of health officer of Erie, a post which he filled with singular fidelity and acceptability up to the time of his last illness.

It has been well said of him, that during the epidemic of small-pox in that city, some years since, he was health officer, physician, nurse and undertaker. While unsparing in his denunciation of those who, knowingly and for gain, jeopardized the health and lives of their fellows, he was extremely forbearing toward the poor, whose infractions

of sanitary law were the result of ignorance. His elaborate paper on the Trichina Disease was one of the early contributions to the literature of that subject in this country and attracted universal attention on the part of physicians and scientists.

The forthcoming annual report of this Board will contain an article from his pen, giving the history of successive outbreaks of that formidable disease in and near the city of Erie. As a public speaker he was always listened to with extreme attention, notwithstanding his imperfect pronunciation, on account of his forcible way of putting things and especially of his keen and ready wit. In the prosecution of official duty, as in the utterance of his opinions, he was absolutely fearless and cared not whom he offended, while at the same time, his frankness, geniality and sense of humor went far to make men accept his caustic criticism without resentment.

The day of his funeral was a day of general mourning in the beautiful city by the lake, whose port he had so faithfully guarded against the intrusion of foreign pestilence. The places of business were closed and the citizens turned out as by a common impulse to follow to its last resting place the honored form of him who had been to them so honest a public servant, so wise a counsellor, so firm a friend.

The State Board of Health of Pennsylvania may well congratulate itself on having had such a true, brave and learned man as EDWARD WILLIAM GERMER as its first president.

As has been intimated, the year which is drawing to its close has been marked by a singular exemption from wide-spread epidemics. At no time during the past decade, in which your Secretary has been giving especial attention to the health of the State, has there been a twelve months of such remarkable immunity from pestilence. When the fact is borne in mind that the heat of the past summer has been unequaled since the centennial year, the suggestion may be pardoned that the influence of the Board for good in a practical way is already making itself felt; that the precautionary circulars which, owing to the wise generosity of the Legislature in the matter of printing, the Board has been enabled to scatter by tens of thousands throughout the length and breadth of the State, through health officers, boards of health and sanitary committees, through burgesses and mayors, through the Board of Public Charities and the Board of Public Instruction, through physicians and ministers of the gospel, through manufacturers and employers, describing in clear and popular language the characters and favoring circumstances of all the infectious diseases, and the means to be adopted for their prevention, have begun their beneficent work of educating the people in things which pertain to the preservation of health and avoidance of disease. The circulars which have been added during the year to those already prepared and promulgated, have been on the following subjects, viz: Typhoid Fever, Scarlet Fever, Diphtheria, Trichinosis, Contagious and Infectious

Diseases generally, and the Hygienic Care of Infants. In the preparation of these circulars the Secretary desires to acknowledge the valuable assistance of Professor George G. Groff, of Lewisburg, medical inspector to the Board for the Northumberland district, but since, in the wisdom of the Chief Executive of the Commonwealth, elevated to a seat upon our Board, a choice on which we and the State may well congratulate ourselves. Another change in the personnel of the Board has been necessitated by the resignation of our civil engineer, Mr. Rudolph Hering. This was not the result of any failure of that gentleman's interest in the work of the Board, but was made necessary by his change of residence to a distant portion of our country. The same eminent ability as a sanitary engineer, which led to the conferring upon him of the honor of an appointment on this Board, recognized by the authorities of the Metropolis of the West, has been the means of his transference to another field of labor, not less honorable and more lucrative. While we regret the departure of one so thoroughly qualified by natural endowment, by education and by a thorough acquaintance with most of the local problems of our State in the matter of water supply, for the position which he held with us we can but congratulate him on his well merited success. His place, however, has been fortunately in great measure made good by the appointment, as his successor, of Mr. Howard Murphy, of Philadelphia, a gentleman who is thoroughly conversant with his labors in the exploration and investigation of the water sheds of the eastern part of the State, and who adds to a not inconsiderable experience, that enthusiasm in the practice of his profession which is so desirable in undertaking to fill a position whose principal emolument is the consciousness of duty faithfully performed. The appointment of Dr. McClelland, whose term had expired, as his own successor, is one on which his colleagues can but felicitate themselves and him.

The last Legislature showed its confidence in the Board and its satisfaction with the work accomplished by it, by continuing the appropriation for its support, and adding to its means of usefulness by greatly increasing the edition of its annual report, and also authorizing the printing of a large edition of the "Compendium of the Sanitary Laws of the Commonwealth," which its Committee on Sanitary Legislation has prepared. The Governor of the State has exhibited no less interest in its labors than his esteemed predecessor; and its sister Boards have proved themselves ready to coöperate with it cordially wherever opportunity has presented itself.

The outlook, therefore, is most encouraging for its increased usefulness during the coming year. A new element of strength has been added in the passage of the bill for the incorporation and government of cities of the fourth, fifth, sixth and seventh classes. Your secretary was invited to appear before the Inter-Municipal Convention, composed of delegates from cities and boroughs from all parts of the



State, assembled to deliberate upon this measure, and to give his views as to the proposed article authorizing the establishment of boards of health in all such cities. As a result of this conference certain objectionable features were eliminated from the bill, and a more direct relationship was established between the local boards and this Board. When all the cities in the State have organized boards, with a complete system of registration, vital statistics will begin to take shape. The rural districts will not be content to allow the cities to reap all its advantages or to allow their own people to be born and die with less official record than is made of their blooded stock. And thus gradually this Board may hope to become the State Bureau of Vital Statistics in something more than name.

One of the duties imposed upon the Board is to "suggest amendments to the sanitary laws of the Commonwealth." In the discharge of this duty the Board presented to the Legislature, for its consideration, at its last session, nine bills. Of these, three had for their object the establishing of the necessary machinery for the collection and record of vital statistics; one providing for the compensation of county registration officers (prothonotaries and clerks of orphans' courts), for making returns to this Board; a second, for the employment of an additional clerk in the office of the Secretary of Internal Affairs to receive and collate those returns, and a third, for the appointment of health officers of townships and counties who should act as registrars for births, deaths and prevalent diseases. The system thus proposed would have been a very complete one and would have placed Pennsylvania in the foremost ranks of enlightened Commonwealths in a matter which all statesmen now regard as of prime importance. The Legislature, however, while appreciating the advantages of the plan, evidently considered that public sentiment was not yet sufficiently advanced to sustain it in the creation of so large a number of salaried officers, for an object which to many would appear purely theoretical, and the bills failed in the Senate after passing the House. The three bills, looking to a continuance of the work of the Board, passed unanimously. Two of an extremely practical character, one "to regulate the transportation and storage of dynamite," and the other "to prevent the pollution of rivers, lakes and other waters," were less fortunate, partly because introduced somewhat late in the session.

These objects, it is trusted, the Board will see the importance of keeping steadily in view, and of urging them upon the attention of the next Legislature with such modifications as may remove the obstacles to their success.

One of the most important practical questions which now confronts the Board, is that which it took occasion to present with all earnestness to the National and State authorities during the first year of its existence, viz: The quarantine of the Delaware river. The presence

of the most to be dreaded of all modern epidemic diseases in a neighboring port, and the possibility that any day may bring a vessel laden with its death-bearing seeds into our own waters, makes this problem one of the utmost urgency. The opinion officially expressed, on more than one occasion by the Board, that the means now provided by the State authorities and those of the city of Philadelphia for the exclusion of Asiatic cholera and the management of a ship load of infected emigrants, are utterly inadequate, has just received the strongest possible confirmation from a committee of intelligent physicians, appointed by the oldest and most conservative medical society in the country. A kind Providence and no good management of our own has granted us immunity so far. But let us not tempt Providence. To idly hang our hands with so much of menace in the air is to play the part of imbeciles. Winter will not save us if the disease once gets a foot-hold. Your Secretary therefore recommends that the Board urge upon his Excellency, the Governor of the Commonwealth, the importance of at once conferring with the Chief Executives of the neighboring States of Delaware and New Jersey, alike interested with this State in excluding infection from that great highway of travel and traffic, the Delaware bay and river, with a view to making joint application to the President of the United States for the grant of such portion of the reserve funds placed in his hands by Congress for meeting emergencies like the present, as may be necessary to immediately establish a National Quarantine Station, either at the site of the present Marine hospital at the Delaware Breakwater or on Pea-patch island, which shall provide ample and comfortable accommodations for quarantine of detention and inspection and for the care of the sick, as well as be supplied with all the modern appliances for disinfection of ships, cargoes, baggage and clothing. A few thousand dollars, judiciously expended in this manner during the next four months, may be the saving of as many millions, which would otherwise be swallowed up in the devastating march of a pestilence. The city of Philadelphia will still have ample use for her station at the Lazaretto. The director of public safety is already, with wise foresight, urging the removal of the Municipal hospital from its present site in the midst of a rapidly growing population not far from the geographical center of the city, to that more remote and isolated locality. The question of its removal some whither is only one of time. The city of New Orleans finds the possession of two stations, one at the mouth of the river and one nearer the city, a matter of great convenience; and our own situation, controlling the commerce of the river as we do only in part, makes such an arrangement still more desirable for us.

There cannot be a moment's doubt that the President would lend respectful attention to a request emanating from such distinguished sources.

It is also for the Board, in its wisdom, to determine whether the



time has not arrived when it should call upon the Surgeon General of the Marine hospital service to use the authority vested in him by Congress to notify Consuls of the infected Mediterranean ports that emigrants from such ports will not be allowed to land in this country until competent authorities have declared the infection to be at an end in those cities.

An inspection of the Executive Mansion, made by the Secretary, in consequence of the death of one of its inmates from diphtheria, revealed sanitary defects of a glaring nature. It is to be hoped that compliance with the recommendations of the Board will prevent a repetition of the sad events which have so often made the residence of our Chief Magistrate a house of mourning. There are, however, serious objections to the situation which must eventually lead to the erection in some other part of the city of a building unexceptionable from a hygienic point of view, and more commensurate with the dignity of a great Commonwealth.

The action of the Board, in adopting the "Annals of Hygiene" as its official organ, has been amply justified by the high standard maintained by that journal and its increasing popularity. The Superintendent of Public Instruction could confer no greater boon upon the rising generation committed to his charge, than by placing a copy of it in the hands of every educator. A text book of hygiene alone is not enough. The teacher needs something to stimulate his interests and to bring the subject before him in an alive, every day, practical manner, and this the journal in question will unfailingly do.

The absence of any law in this State for circumscribing and stamping out the diseases known as Glanders or Farcy seems to make it incumbent upon the Board to adopt a regulation covering that subject. An interesting conference has been held with representatives of the State Board of Agriculture in reference to it, and it is believed that the two Boards can profitably act in concert in the effort to banish this horrible infection from our borders.

In conclusion, the Secretary begs leave to express to the Board his sense of obligation to them for their hearty coöperation in every measure which he has deemed necessary for the public good, and their readiness to sacrifice time and devote labor which could ill be spared from busy lives, in furtherance of the beneficent objects for which the Board was created.

Respectfully submitted.

BENJAMIN LEE, M. D.,  
*Secretary and Executive Officer.*

## MINUTES OF THE BOARD.

### SPECIAL MEETING, FEBRUARY 23, 1887.

A special meeting of the Board was held, at the call of the President, on Wednesday, February 23, 1887, at 1.15 p. m., at the executive office.

Present, Drs. Edwards, Dudley, Engelman and Lee. A letter was received from the President, Dr. Germer, expressing his regret at not being able to attend on account of sickness, and a telegram from Dr. McClelland, also stating his inability to attend.

On motion of Dr. Dudley, Dr. Engelman presided. It being a special meeting the reading of the minutes of the last regular meeting was dispensed with.

*Bills before the Legislature.* The secretary stated the object of the meeting to be the consideration of several bills which the present Legislature would be requested to pass and which were open to revision and amendment.

*Supplement.* The first bill considered was entitled "A supplement to an act to establish a State Board of Health," and provided for the compensation of county registration officers; declared an infringement of the orders of the Board a misdemeanor; made the party maintaining a nuisance liable to the expense of its abatement, and the expense, if unpaid, a lien on the property; and authorized the members of the board to issue a mandamus and to take depositions. The Secretary stated that the bill had been reported back from the Judiciary Committee with all but the first provision stricken out. Various suggestions were made for rendering the remaining provisions less obnoxious, and the Secretary was instructed to prepare a substitute for the sections stricken out and present it at an early date.

*Printing Annual Report.* The second bill was one asking for authority to have five thousand copies of the annual report printed. It was approved.

*Annual Appropriation.* The third asked for an increase of the annual appropriation from \$5,000 to \$9,350. It was approved.

*Clerk in Department of Internal Affairs.* The fourth called for the appointment of an additional clerk in the Department of Internal Affairs, who should act under the direction of the Superintendent of Vital Statistics. It was approved.

*Printing of Compendium.* The fifth was in the form of a concurrent resolution authorizing the printing of five thousand copies of the compendium of sanitary laws of the Commonwealth. It was sug-



gested that the Secretary find out the probable cost of such printing for the information of the Legislature. The resolution was approved.

The Secretary then presented a bill now before the Legislature, which had been handed to him by a prominent physician of Philadelphia, with the request that he would bring it to the notice of the Board. It was entitled, "An act to prevent the traffic in impure, adulterated and unwholesome milk, and to regulate the sale of milk." The Board gave the bill its cordial endorsement.

*Storage and Transportation of Dynamite.* The next subject for consideration was a complaint of a nuisance consisting of storage and transportation of dynamite near the village of Rose Glen, Lower Merion township, Montgomery county. The secretary had sent Inspector Atkinson to investigate the condition of affairs, and his report, which was read in full, showed that great carelessness existed both in storage and transportation, and that the residents of the neighborhood were in constant dread of an explosion. In the entire absence of legislation upon the subject, however, the Secretary had not felt himself authorized to take any active steps to give them relief unless so instructed by the Board. He suggested that as there were no State laws upon the matter the Board, if it decided to authorize him to proceed, might pass a regulation which would have the force of law, until proper legislation could be obtained. After considerable discussion it was

*Resolved,* That in the opinion of this Board the control of the storage and transportation of dynamite does not fall within the limit of its jurisdiction as assigned by law.

*Township Sanitary Organization.* A letter was then read from a resident of Arnot, Tioga county, asking for information and instruction as to the proper steps to take in order to organize a township board of health.

This introduced the whole question of sanitary organization in the rural districts for which no legal provision as yet exists. The secretary suggested that it was much to be desired that some plan might be perfected and brought before the present Legislature. All attempts at sanitary registration and vital statistics would be vain until this machinery was created. Three plans had so far been considered.

*Township Boards.* That which is in operation in New York, Michigan, most of the New England and some of the Western States, of township boards of health, such as this letter contemplates, responsible to and reporting to the State Board.

*County Boards.* That which was suggested in the report of the Committee on Medical Legislation, and which appears in the annual report of county boards of health, having health officers or inspectors in each township. The county boards reporting to the State Board.

*Township Health Officers.* And that suggested by Dr. Edwards, of

a health officer in each township who should be responsible only to and receive his appointment from the State Board.

*County Medical Officers of Health.* After discussion of the comparative merits of each of these plans, Dr. Engelman proposed, as a substitute, the idea of having in each county a medical officer of health to be appointed by and to be responsible only to the State Board.

*Deputy Health Officers in Townships.* This county health officer to appoint a deputy health officer in each township who should be responsible only to him and make his returns to him. The deputy health officers acting together to form a county board of health. All returns to be made primarily to the county medical officer of health and by him arranged and returned to the State Board. The Secretary was instructed to draft a law embodying these ideas, and present it to the Legislature.

*Next Meeting.* The subject of arranging for the next meeting of the Board having been referred back to the Board by the Executive Committee, the Secretary reported that the Hon. E. A. Wood, M. D., of Pittsburgh, had consented to deliver the "annual address" before the Board.

*Secretary Empowered to make Arrangements.* It was left to the discretion of the Secretary to determine at what time the address should be delivered and to make all necessary arrangements therefor. On motion the board then adjourned.

BENJ. LEE,  
*Secretary.*

---

## SIXTH REGULAR MEETING, APRIL 14, 1887.

---

The sixth regular meeting of the Board was held in the Supreme Court room, Capitol building, Harrisburg, on Thursday, April 14, 1887.

Present, Drs. Engelman, Edwards, McClelland and Dudley. The President being detained at home by personal indisposition, Dr. Engelman was, on motion, called to the chair.

In the absence of the Secretary, Dr. J. F. Edwards was appointed Secretary *pro. tem.*

*Absence of the Secretary.* A letter was read from Dr. Benjamin Lee, the Secretary, explaining that in consequence of the death of his father, Bishop Lee, of Delaware, he would be compelled to ask to be excused from attendance.

The explanation was, on motion of Dr. McClelland, accepted and the following resolution unanimously adopted :

*Resolution of Sympathy.*—*Resolved,* That this Board extends its cordial sympathy to the executive officer, Dr. Benjamin Lee, who is

---



detained by the death of his distinguished father, Bishop Lee, of Delaware.

The minutes of the last regular meeting held November 10, 1886, and of a special meeting held February 23, 1887, were read and approved. The report of the Secretary was then read, including the following items.

*Inspection of Cumberland County Jail.*—1. Report of an inspection of the Cumberland county jail at Carlisle, made by R. Lowry Sibbet, M. D., medical inspector of the Cumberland district. Accepted and referred to Executive Committee.

*Inspection at Tarentum.*—2. Report of an inspection at Tarentum, Allegheny county, made by Mr. L. H. Hunter, inspector of the Allegheny district, in order to determine the cause of an epidemic of typhoid fever in that borough. Accepted and referred.

*Schooley Shaft.*—3. Correspondence in regard to the causation of malarial fevers by the drainage of the Schooley shaft, borough of Exeter, Luzerne county. On motion the following resolution was adopted: *Resolved*, That the Secretary and Dr. Engelman be a committee to investigate fully the condition of the overflowed lands in the borough of Exeter, and that the Secretary be empowered to take such action as the committee judge necessary.

*Annual Report Erie.*—4. The annual report of the health officer of Erie. Accepted and referred for publication.

*Annual Report Corry.*—5. The annual report of the health officer of Corry. Accepted and referred.

*Inspection at General Wayne*—6. Report of an inspection of a house at General Wayne, Montgomery county, in which a death from diphtheria had occurred, made by the Secretary. Accepted and referred.

*Inspection at Derry.*—7. Report of an inspection at Derry, Westmoreland county, made by L. H. Hunter, inspector of the Allegheny district, assisted by Crosby Gray, Esq., health officer of Pittsburgh, in order to determine the cause of the prevalence of the typhoid and malarial fevers at that place. Accepted and referred.

On motion the Secretary was instructed to convey the thanks of the Board to Mr. Gray for his interest in the matter and his kind and efficient aid to the inspector of the Board.

*Inspection of the Executive Mansion.*—8. A report of a sanitary inspection of the Executive Mansion at Harrisburg, made by the Secretary assisted by Dr. Hugh Hamilton, chairman of the sanitary committee of the Dauphin County Medical Society. The report was accepted, but on motion the suggestion was adopted that the conclusions be so modified as not to allow the passage of a sewer under the house.

*Report of Harrisburg Hospital.*—9. Statistics of Harrisburg hospital for the past year and statement of the board of managers. Referred to the Secretary for a suitable reply.

*Report on Trichinosis in and about Erie.*—10. Report on outbreaks of trichinosis in the neighborhood of, or in the city of Erie, by Ed. Wm. Germer, M. D., President of the Board. Accepted and referred.

*Inspection of Gunners' Run.*—11. Report of an inspection of Gunners' Run, Philadelphia, made by W. B. Atkinson, M. D., medical inspector of the Delaware district. Accepted and referred.

*Inspection of Shenandoah.*—12. Report of an inspection of the sanitary condition of Shenandoah, made by Medical Inspector McKibbin, of the Schuylkill district. Accepted and referred.

*Resolution of Pittsburgh Board.*—13. Resolution of the Pittsburgh board of health urging the State Legislature to support the work of the Board by a liberal appropriation. Received and ordered to be placed on file.

*Annual Conference of State Boards of Health.*—14. Invitation to attend the annual conference of State Boards of Health at Washington. On motion it was ordered that such members of the Board as may be able to attend be constituted delegates to said conference, and their necessary expenses be paid by the Board.

*Hygienic Congress at Vienna.*—15. On motion, Dr. E. Wm. Germer was appointed a delegate to the Hygienic Congress at Vienna, Austria, in September next, to represent this Board, but at his own expense.

*Death of the President of the Iowa Board.*—16. The Secretary announced the death of the President of the State Board of Health of Iowa, Dr. W. S. Robertson.

On motion, the Secretary was instructed to address a suitable letter of sympathy and condolence to the Board on the occasion of its loss.

*Exhumation of a Small-pox Corpse.*—17. A complaint of the exhumation of the body of a person dead of small-pox at Chester, Delaware county. On motion, it was referred to the executive officer with power to act.

*Vaccination Circular.*—18. A circular addressed by the Secretary to all health officers throughout the State urging the importance of thorough vaccination was presented. It was received and ordered to be filed.

*Bills before the Legislature.*—19. The Secretary reported that since the special meeting held in February to consider the subject of sanitary legislation, the following bills had been presented to the Legislature:

*To Establish County Boards.* A bill to establish a board of health in each county and appoint a health officer in each township.

*To Repeal Limiting Clauses.* A bill to repeal the limiting clauses of the act to establish a State Board of Health.

*To Regulate Storage and Transportation of Dynamite.* A bill to



regulate the transportation and storage of dynamite and other high explosives in this State.

*To Prevent Pollution of Rivers and Lakes.* A bill to prevent the pollution of rivers, lakes and other waters in this State. The bills as described were approved.

The report of the Secretary as a whole was then accepted.

*Reports of Standing Committees.* Reports of standing committees being in order, Dr. J. H. McClelland, on behalf of the Committee on Water Supply, etc., made a report in reference to the proposed sewerage system of East End, Pittsburgh, the proper mode of construction of and proper materials for the paving of streets, and the necessity of regulations for the government of plumbers and their work.

Accepted.

*Sanitary Legislation.* Dr. David Engleman, on behalf of the Committee on Sanitary Legislation, reported that the committee had now before the Legislature a considerable number of bills having for their object the increased efficiency of the Board and new precautions for the protection of health and life. Accepted.

New business being in order, Dr. J. H. McClelland submitted the following resolutions which were adopted:

*Resolved*, That the State Board of Health urges all municipalities to consider the propriety of paving all streets with impervious and noiseless pavements.

*House Drainage.—Resolved*, That the State Boards of Health recommend the adoption by all municipalities of the State, of rules and regulations governing the construction of house drainage similar to those now in force in the county of Philadelphia.

*Circulars Promulgated.* The following list of circulars promulgated since the last regular meeting of the board was presented, viz:

*Transportation of Corpses*, Regulation 4. Regulations in regard to the disinterment and transportation of dead bodies.

*Typhoid Fever*. Circular No. 18. Precautions against typhoid fever.

*Diphtheria*. Circular No. 19. Precautions against diphtheria.

*Contagious and Infectious Diseases*. Circular No. 20. Precautions against contagious and infectious diseases, both in English and German.

*Scarlet Fever*. Circular No. 21. Precautions against scarlet fever.

*Trichinosis*. Circular No. 22. Precautions against trichinosis. English and German in one sheet, illustrated.

*Inter-State Notification*. Form 8. Inter-State notification of infectious diseases. Approved and ordered on file.

*Appointment of Dr. McKibbin, Inspector of Schuylkill District.* On the nomination of the Secretary, Dr. D. J. McKibbin, of Ashland, Schuylkill county, was appointed medical inspector of the Schuylkill district.

On motion the Board then adjourned to meet in the Hall of the

House of Representatives at 8 P. M., to listen to the delivery of the annual address.

#### SECOND SESSION.

*Address of Dr. E. A. Wood.* At 8 P. M. the Board re-assembled to attend the delivery of the annual address, by the Hon. E. A. Wood, M. D., of Pittsburgh. The hall was filled with a large and intelligent audience composed of members of the Legislature and citizens of Harrisburg, who listened with deep attention to the masterly effort of the distinguished orator of the occasion. At its conclusion a vote of thanks was tendered to Dr. Wood, and the Board then adjourned *sine die*.

JOSEPH F. EDWARDS,  
*Secretary pro tem.*  
for BENJAMIN LEE,  
*Secretary.*

---

#### SEVENTH REGULAR MEETING.

---

The seventh regular meeting of the Board was held in the Supreme Court room, Capitol building, Harrisburg, Wednesday, July 13, 1887, at 2.30 P. M. Present, Drs. Engelman, McClelland, Dudley, Lee and Mr. Howard Murphy. In the absence of the President, Dr. McClelland was, on motion, called to the chair.

The Secretary then presented two communications from Dr. J. S. Stewart, of Erie, Dr. Germer's physician, stating that the condition of the latter's health was such as to entirely preclude the possibility of his attendance at this meeting, and even to give cause for serious anxiety. The communications were received and ordered to be placed on file. The Secretary also received a communication from Dr. J. F. Edwards, regretting his unavoidable absence from the meeting. Dr. Dudley offered the following resolution, which was unanimously adopted:

*Resolved*, That the Secretary be and is hereby requested to transmit to Dr. Edward Wm. Germer, the President of the Board, our regrets in view of his absence from our meeting and our heartfelt sympathy with him in his illness; and, also, to express to him our hope for his speedy recovery and restoration to his eminent usefulness."

The commissions of Dr. James H. McClelland, of Pittsburgh, as a newly appointed member for the ensuing six years, to succeed his own expired term, and of Mr. Howard Murphy, C. E., for six years, to succeed the expired term of Mr. Rudolph Hering, C. E., were presented.

The minutes of the sixth regular meeting, held April 14, 1887, were



read and approved. The report of the Secretary was then read as follows:

The Secretary begs leave to respectfully present the following report of his official acts since the last meeting, April 14, 1887. He asks leave, however, to preface it by an expression of his acknowledgement of the kindly expressed sympathy of the Board with him in the personal bereavement which rendered it impossible for him to meet his fellow members on that occasion. The following are the items of information which it is of importance that the Board should possess or take action upon:

1. On Saturday, April 16, 1887, notification was received from Health Officer Gray, of Pittsburgh, of the existence of a case of small-pox in that city, which had been imported into the country through the port of Philadelphia, on a steamer supposed to be named "Largoff." Health Officer Patterson, of Philadelphia, was at once communicated with on the subject, with the suggestion that the steamer be disinfected and the passengers and crew placed under strict surveillance. The health officer's reply showed the vessel to have been the "Lord Gough," from which a patient, sick with small-pox, had been removed to the Municipal Hospital. The passengers had been examined and the ship fumigated. It was evident, however, that the precautions taken had not been sufficient, or at least efficient. In the opinion of the Secretary, it is of the utmost importance that strict quarantine should be enforced against this disease all the year round, winter as well as summer. The report was received and ordered for publication. Action on it was deferred to "unfinished business."

2. The inter-State notification of contagious and infectious diseases adopted by this Board at its meeting in November last on the recommendation of the National Conference of State Boards of Health, could not but be regarded as a decided step in advance in unifying the sanitary administration of the entire country. A detailed statement of the instances in which notification of small-pox had been given and received since the initiation of the plan in this State was then presented.

3. The quarantine of the Delaware river and bay is a subject of constantly increasing importance and anxiety. Philadelphia is very illy provided by either National or State quarantine systems for the reception of a cholera-laden vessel. This fact was brought out with great prominence by Dr. Rauch, the Secretary of the State Board of Health of Illinois, in his valuable report on the "Coast Defences of the United States against the Introduction of Contagious Diseases," the results of a tour of personal inspection from the mouth of the Rio Grande to the Gulf of St. Lawrence, made by direction of his State government. It needed no demonstration, however, to show that the provision made seventy years ago for the little city of 80,000 inhabitants is as inadequate to the protection of the metropolis of nearly a

million, as are the swathing bands of an infant for the clothing of the full-grown man. In order to enable the Board to judge just what the present condition is, a correspondence between the Secretary and Dr. Preston H. Bailhache, surgeon of the United States Marine Hospital Service for the Middle Atlantic Division, was submitted. The papers were received and ordered on file and for publication, and action deferred until unfinished business.

4. As the heat of summer begins to promote decomposition, the Secretary is in receipt of constantly increasing complaints from the rural districts and small villages and boroughs.

The first of these is that of defective drainage of Lansdowne, Delaware county. The Secretary had referred the case to Inspector Atkinson, who recommended that the piece of land complained of be drained and filled up with fresh earth. An order to this effect was served upon the proprietor, who had complied with it so far as drainage was concerned, but an additional complaint had been received that it had not been filled up, and it would be necessary to send an additional order. The report was received and ordered for publication, and the action of the Secretary approved.

5. The report of Inspector Kennedy showed that the rumors which prevailed in the vicinity of Natrona. Allegheny county, of the existence of typhoid fever among the workmen of the Pennsylvania Salt Works, were unfounded, only a few cases of measles being found to exist. Report received and ordered for publication.

6. The complaint of several citizens of Bryn Mawr, Montgomery county, of a cellar left open and full of water, had been reported on by Inspector Atkinson, and the order for abatement of the nuisance had been sent. No farther complaint having been received, it was presumed that it had been obeyed. Report received and action approved.

7. The complaint of the citizens of Chartiers, Allegheny county, of nuisances in the shape of foul slaughter houses had been referred to Mr. L. H. Hunter, inspector of the Allegheny district, and orders sent to him for abating the nuisances were being complied with. Report accepted and action approved.

8, 9. Complaint and counter-complaint of overflowing cess-pool and defective drainage on the part of neighbors at Fernwood, Delaware county. These were brought to the notice of the Board in order to obtain a more definite expression of opinion on the part of the Board as to the extent to which it was the duty of the Secretary to entertain private complaints. He would call the matter up, and ask for action under the head of unfinished business.

10. The annual report of the health officer of Scranton was received and ordered for publication.

11. A communication in regard to the unsanitary condition of Alle-



gheny Furnance, Blair county, had been referred to Inspector Dudley, but no report had been yet received.

12. The report of Inspector Payne of the condition of Sugar creek, a stream running through the borough of Troy, Bradford county, showing said stream to be simply an open sewer, declaring it a nuisance and suggesting the necessity for the construction of a covered drain, was received, ordered on file, and action deferred until unfinished business.

13. A complaint of citizens of Covington, Tioga county, had been referred to Inspector Payne. The nuisance consisted of foul slaughter-houses. The report of the inspector had not yet been received. The action of the Secretary was approved.

14. A communication was read from the Burgess of Scottdale, Westmoreland county, requesting the Board to send an inspector, and offering to pay the expenses of the inspection. The Secretary asked for instructions in such instances of offer of pecuniary compensation. It was the sense of the Board that the offers should by all means be accepted, especially in view of the small appropriation for the work of the Board, and that a separate account should be kept of all moneys so received.

15. His Excellency the Governor had transmitted a complaint made by J. D. S. Pringle, justice of the peace, of a foul slaughter house in Westmoreland county, in the town of West Brownsville. Mr. Hunter had been instructed to investigate and report. Report accepted and ordered on file.

16. A complaint of foul slaughter houses, at Homestead, Allegheny county, which had been referred to Mr. Hunter. Accepted.

17. A similar complaint from Dr. Remsberg, of Worfordsburg, Westmoreland county, offering to pay the expenses of an inspection. Referred back to Secretary for action.

18. Complaint of the foul condition of Elk creek, running through the borough of St. Mary's, Elk county. Referred back to the Secretary for action.

19. Complaint of a fat-rendering establishment at Hulmeville, Bucks county. Similarly referred.

20. A case of supposed poisoning by dried beef at Altoona. A specimen of the beef had been sent to a chemist for examination and he had not yet reported.

21. The Secretary had been applied to by a health officer for an opinion as to whether under the new act for the government of cities below the second class, a physician is eligible as health officer. He read a letter, sent in reply, deciding the question affirmatively. His decision was sustained by the Board and the letter ordered on file.

22. The organization of the first board of health under the new law, that of Scranton was announced.

23. Also the report of the organization of a board of health in

Braddock. The Secretary referred to the pressing necessity of such an organization in that place, for prevention of the pollution of the Monongahela river, which was at this point in a condition too horrible to be adequately described.

24. A letter was read from the prothonotary of Juniata county, requesting compensation for copying the register of physicians of that county.

25. A copy of the proposed rules of the Pennsylvania Railroad Company for the transportation of corpses was presented, together with a letter written by the Secretary to the general baggage agent of the road, explaining the regulations of the Board upon that subject. Both papers were ordered on file and the reply of the Secretary approved.

26. The Secretary presented a copy of the requisition of the Board for stationery, supplies, etc., which was approved.

27. The Secretary read his financial report as follows. The Secretary acting as Treasurer begs leave respectfully to report:

That there was remaining in the treasury, April 14, 1887, . .	\$147 27
That there was received from the Auditor General, June 11, 1887, warrant for the quarter ending August 31, 1887, . .	750 00

Making a total of receipts of . . . . .	\$897 27
That there had been expended during the same period for incidental expenses, . . . . .	\$200 54
Traveling expenses, . . . . .	83 63
Inspections, . . . . .	90 00
Analyses, . . . . .	215 00
Clerical expenses, . . . . .	75 00

In all, . . . . .	664 17
-------------------	--------

Leaving a balance in treasury of, . . . . .	<u>\$233 10</u>
---	-----------------

The reported was accepted, approved and ordered on file.

The number of written communications received by the Secretary since the November meeting had been five hundred and eighteen (518); the number sent during the same period five hundred and sixty-three (563). The number of books received in exchange for the library had been eighteen (18); the number of pamphlets eighty-four (84).

The number of complaints received since April 14 had been thirteen (13).

The report of the Secretary was then accepted as a whole and approved.

Reports of standing committees being next in order,

The Executive Committee, through its chairman, Dr. Dudley, re-



ported that the committee had held two meetings since the last meeting of the Board, at which bills to the amount of \$1,624.22, comprising vouchers 136 to 163 had been audited and approved. The report was accepted and ordered to be placed on file.

2. The Committee on Registration and Vital Statistics, Dr. Benj. Lee, chairman, reported: That, owing to the failure of the Legislature to provide the necessary machinery and means for carrying out the work of registration, but little could now be accomplished; the only possible sources of accurate information being the county medical societies. The report was accepted and ordered on file.

3. In the absence of the chairman, Dr. Edwards, there was no report from the Committee on Preventable Diseases.

4. On behalf of the Committee on Water Supply, the Secretary called attention to a letter from the health officer of Scranton, which was read by Mr. Murphy, describing the causes of possible pollution of the Scranton water supply. The subject was referred to the Committee on Water Supply, with instructions to investigate the subject in conjunction with the executive officer.

5. The Committee on Public Institutions, etc., Dr. McClelland, chairman, reported progress.

6. The Committee on Adulterations, etc., Dr. Pemberton Dudley, chairman, reported, that notwithstanding the accumulating evidence of dangerous adulterations in food, the committee was not able to enter upon this important field for want of funds, the Legislature having failed to make an appropriation for this object. The Report was accepted and ordered on file.

7. Dr. David Engelman, chairman of the Committee on Sanitary Legislation, reported that out of the ten bills and a joint resolution in which this Board was directly or indirectly interested, only three bills and the joint resolution had passed. The report emphasized the importance of making use of the interval between the present time and the next meeting of the Legislature to create a popular sentiment in favor of more liberal support to the Board. It concluded by offering the following resolutions, which were adopted, and the report approved and ordered on file:

*Resolved*, That this Board desires to express its keen appreciation of the earnest and untiring efforts of Dr. S. T. Davis, the honorable representative from Lancaster county, to further the interests of the board and of public health, by urging such measures upon the Legislature of the Commonwealth as would strengthen the hands and confirm the powers of the Board.

*Resolved*, That in the final success of certain of these measures, it recognizes the masterly conduct of a leader in the legislative arena; while the failure of others simply points to the fact that the education of the popular mind, of which that of the Legislature is but a reflection, has not yet progressed sufficiently in sanitary matters to enable it to

appreciate the necessity of a slight pecuniary outlay, in order to establish sanitary science and vital statistics on a firm basis in every portion of this great and populous State.

*Resolved*, That this Board tenders Dr. Davis, and through him the other members of the Legislature of both Houses, whether belonging to the medical profession or not, who advocated the passage of the bills which emanated from it, sincere and heartfelt thanks.

The election of a President for the ensuing year was the next business in order. Dr. David Engelman, of Easton, was nominated, and the nominations were closed.

On motion, the Secretary was instructed to cast a single ballot for Dr. Engelman. This was done, and the chair announced Dr. Engelman the President for the ensuing year. The President-elect then took his seat, appropriately acknowledging the compliment, and announcing his intention to faithfully discharge the duties of the office as far as in him lay.

Unfinished business being now in order, the Secretary called up the subject of the Schooley shaft nuisance in Luzerne county, for the purpose of moving that Mr. Murphy be added to the special committee to which that subject was referred, with power to act. The motion was carried.

There being a vacancy in the chairmanship of the Committee on Water Supply, etc., the chair appointed Mr. Murphy to fill the position.

New business being in order the Secretary presented bills comprising vouchers 136 to 152, which had been audited and approved by the Executive Committee. They were approved.

The subject of private disinfecting establishments was introduced by the Secretary at the request of Dr. Edwards. On motion it was

*Resolved*, That this Board would regard with favor and would encourage the establishment of private disinfecting institutions in our large cities: *Provided*, They be placed under competent expert supervision and management.

Dr. H. L. Stickel and Dr. Paul A. Hartman, both of Harrisburg, were then nominated for the position of inspector of the Susquehanna district.

Mr. Murphy was appointed teller, and reported that Dr. Stickel had received one vote and Dr. Hartman four votes. The chair accordingly announced that the nomination of Dr. Hartman was confirmed.

A communication from the Section on Public and International Hygiene of the Ninth International Medical Congress was then presented. It was accepted and ordered on file.

On motion, the Secretary was instructed to have a new edition of the constitution and by-laws, with organization and regulations, printed for the use of the Board.

Dr. McClelland called up that portion of the report of the Secretary on the subject of the introduction of small-pox on the "Lord Gough,"

and Dr. Dudley, in this connection, offered the following resolution:

"*Resolved*, That in view of the fact that small pox is occasionally introduced into Pennsylvania and the neighboring States through the foreign and coastwise commerce of the port of Philadelphia, the State Board of Health earnestly requests the health authorities of said port to consider favorably the expediency of adopting still more rigid quarantine regulations against the above-mentioned disease, and of enforcing them throughout the entire year."

It was ordered, and the Secretary was instructed, to transmit it to the proper authorities at Philadelphia.

Dr. McClelland was called up on the subject of quarantine of the Delaware river and bay, and offered the following resolution:

"*Resolved*, That, in the opinion of this Board, the quarantine facilities now existing on the Delaware bay and river are insufficient in extent and antiquated in character, and this Board therefore petitions the Government of the United States to complete the partial and inadequate arrangements which now exist at the mouth of Delaware bay, and to extend the term of quarantine against small-pox throughout the entire year.

The Secretary called up that part of his report which referred to private complaint and counter-complaint at Fernwood, and presented form of letter, which, with the approval of the Board, he proposed to have printed and to use in all cases of individual complaint; making it necessary for a complaint to emanate from a public officer, or from ten citizens uniting in a sworn affidavit.

The form was adopted.

The Secretary presented a proposed circular on the subject of the hygiene of infants, which was approved and ordered to be printed and distributed.

The report of the sanitary condition of Troy was called up, and it was ordered that the authorities of that borough be urged to carry out the recommendations of the inspector.

On motion, the Board then adjourned *sine die*.

BENJ. LEE, *Secretary*.

---

### SPECIAL MEETING, AUGUST 31, 1887.

---

A special meeting of the Board was held Wednesday, August 31, 1887, at the executive office, Philadelphia, at 4.30 P. M. Present, Drs. Edwards, Engelman and Dudley, Mr. Murphy and Dr. Lee. Dr. Engelman, the President, in the chair.

*Epizootic Spinal Meningitis in New Jersey.* On motion of Dr. Dudley the Secretary was instructed to communicate with Mr. T. J. Edge, the secretary of the State Board of Agriculture, Dr. E. M.

Hunt, the secretary of the State Board of Health of New Jersey, and the secretary of the board of health of the city of Camden, in order to ascertain whether the precautions taken by the authorities to prevent the spread of the epizootic disease now prevailing among horses in the State of New Jersey, and said to be of the nature of spinal meningitis, are such as to preclude the danger of the introduction of the disease into the State of Pennsylvania.

*Death of Dr Germer.* The secretary then announced to the Board the death of its late President, Dr. Edward William Germer, of Erie, on the 22d day of August, and offered the following resolutions of respect, which were adopted :

*Resolutions of Respect.—Resolved,* That this Board has heard with profound regret of the decease of its valued fellow member and late President, Dr. Edward William Germer.

*Resolved,* That in a thorough and intelligent understanding of the principles of public hygiene, learned at the feet of Europe's earliest teacher of this most important branch of medical science, he had few equals; and in untiring energy, courage and self-devotion in their practical application in times of public danger, no superior.

*Resolved,* That while the Board in its official capacity has lost an able, wise and faithful member, as individuals we mourn the departure of one whose endearing social qualities and warm emotional nature made him a delightful companion and a true friend.

*Resolved,* That copies of the foregoing resolutions be furnished to the daily press of Philadelphia, Pittsburgh, Harrisburg, Erie and Easton, and to the medical press of the United States and Canada, and that copy be sent to the bereaved family of our late associate.

On motion the Board then adjourned.

BENJAMIN LEE,  
*Secretary.*

---

## EIGHTH REGULAR MEETING, NOV. 9, 1887.

The eighth regular meeting of the Board was held Wednesday, November 9, 1887, at the Supreme Court room, State Capitol, Harrisburg, at 2 P. M., the President, Dr. Engelman, in the chair.

*Members present:* Drs. Engelman, Lee, Edwards, Dudley and Mr. Murphy. A letter was read from Prof. George G. Groff, regretting his inability to be present, and a telegram from Dr. J. H. McClelland stating that he was prevented from attending by illness. The explanations were accepted and the Secretary was instructed to send messages of sympathy and regret to those gentlemen.

*Minutes approved.* The minutes of the last regular meeting held July 13th, 1887, were then read and approved.



The minutes of the special meeting held August 31st, 1887, were also read and approved.

The report of the Secretary was then read embracing the following items.

*Annual Report.*—1. The annual report of the Board to the Governor, as contained in the annual report of the Secretary to the Board. Adopted.

*Pollution of Sugar Creek.*—2. Instructions to the borough council of Troy, Bradford county, for preventing the further pollution of Sugar Creek, by the Secretary.

*Allegheny Furnace.*—3. Report of the sanitary inspection of the borough of Allegheny Furnace, Blair county, by Charles B. Dudley, M. D., inspector. Both the above reports were accepted and referred for publication.

*Camp Winfield Scott Hancock.*—4. Report of a sanitary inspection of Camp Winfield Scott Hancock by William B. Atkinson, M. D., and D. J. McKibben, M. D., inspectors, with morning reports of the officers of the day. Accepted and referred for publication.

*Glanders in Philadelphia.*—5. Action of the Secretary in reference to cases of glanders in Philadelphia.

*Conference on epizootic notification.*—6. Conference between State Veterinarian Bridge, of Philadelphia, Dr. C. N. Hewitt, Secretary of the State Board of Health of Minnesota, and the Secretary on interstate notification of infectious diseases of domestic animals. Action of Secretary in above cases sustained.

*Epizootic Spinal Meningitis.*—7. Correspondence in reference to the prevalence of epizootic spinal meningitis in New Jersey. Accepted and referred for publication.

*Conference of State Boards of Health.*—8. Report of the Secretary as delegate to the Annual Conference of State Boards of Health at Washington, September 8th, 1887. The report was accepted and the following resolution contained in it adopted.

*Inter state Notification re-affirmed.*—*Resolved, First.* That this Board re-affirms the principles contained in the resolutions adopted by it at its meeting in November, 1886, and by the Conference of State Boards of Health, at its meeting in Toronto, October, 1886, on Interstate Notification.

*What Diseases to be Reported.*—*Second.* That those communicable diseases hereinafter mentioned, prevalent in certain areas or which tend to spread along certain lines of travel, be reported to all State and Provincial Boards within said area or along said lines of communication.

*Third.* That in the instance of small-pox, cholera, yellow fever and typhus, reports be at once forwarded either by mail or telegraph as the urgency of the case may demand; and further that in the instance of diphtheria, scarlatina, typhoid fever, anthrax or glanders, weekly

reports, where possible, be supplied, in which shall be indicated, as far as known, the places implicated and the degree of prevalence. It was further ordered that these resolutions be appended to those adopted upon the same subject last year.

*Ninth International Medical Congress.*—9. Report of the work of the section on State Medicine and Hygiene of the Ninth International Medical Congress, by the Secretary. Report accepted and resolution contained postponed to unfinished business.

*Typhoidal Pollution of Ballygomíngo Creek, Conshohocken.*—10. Report on typhoidal pollution of Ballygomíngo creek, Montgomery county. This was an aggravated case of ignorance or negligence on the part of a physician, formerly a member of the borough board of health in ordering the excreta of a typhoid fever patient to be thrown into the creek, the said creek being used as a source of drinking water, and also running into the Schuylkill river. The action of the Secretary in reprimanding the physician and ordering disinfection of the shores of the creek was sustained and the report accepted for publication.

This report was made by W. B. Atkinson, M. D., inspector.

*Unionville, Coatesville, Etc.*—11. Report of sanitary inspections of Unionville, Coatesville and other villages in Chester county, where fevers had been prevalent, by W. B. Atkinson, M. D. This report contained a reference to the carelessness of physicians in allowing the word typhoid to be applied indiscriminately to all forms of fever, thus giving rise to undue excitement and panic.

*Admonitory Circular; Earth Closet.*—The Secretary was ordered to prepare a circular on this subject addressed to the medical profession. On motion of the chairman of the Committee on Water Supply, the Secretary was instructed to accompany the circular with a description of a cheap and efficient form of earth closet. The report was then accepted.

*Sellersville.*—12. Report of an inspection of a bone-boiling establishment at Sellersville, Bucks county, W. B. Atkinson, M. D., inspector. Report accepted and action of Secretary approved.

*Quarantine of the Delaware.*—13. Letter to the board of health of Philadelphia on the subject of quarantine of the Delaware river. Accepted and referred for publication.

*National Quarantine Law.* In this connection, the Secretary presented the copy of the act of Congress placing the national quarantine in the hands of the Supervising Surgeon General of the Marine Hospital Service, and moved that it be printed in the annual report.

*Secretary's Report Adopted.* It was carried, and the Secretary's report was then, on motion, adopted as a whole.

*Standing Committees, Executive Committee.* Reports of standing committees being in order, the Executive Committee, Dr. Pemberton Dudley, chairman, reported that three meetings had been held since



the last regular meeting of the Board, viz: On July 20, the regular meeting at the executive office, at which vouchers 164 and 165, amounting to \$23.36, were audited and approved; on August 31, a special meeting at the executive office, at which vouchers 166 to 172, amounting to \$290.80, were audited and approved, and on November 9, at the Supreme Court room at Harrisburg, at which vouchers 173 to 177, amounting to \$182.01, were audited and approved, making a total of \$496.17. The report was accepted and referred for publication. The Committee on Registration offered no report.

*Committee on Preventable Diseases; Lectures, Sanitary Associations.* The Committee on Preventable Diseases, Dr. Joseph F. Edwards, chairman, offered a resolution recommending the delivery of illustrated lectures throughout the State, and the organization of sanitary associations in all the smaller towns; after discussion, the subject was referred to the Executive Committee, to report at a special meeting to be called by the President of the Board.

*Request to Quarantine Commissioners of New York.* The report also recommended that the Board take action similar to that of the Illinois Board, in requesting the quarantine commissioners of the port of New York to issue certificates of freedom from danger of infection to all Italian immigrants leaving the quarantine station, and in requesting the presidents of railroads not to receive or transport Italian immigrants without such certificates. The recommendation was adopted, and the Secretary was instructed to take the necessary steps to carry it out. The report was then adopted for publication.

*Committee on Water Supply; Drowned Lands in Luzerne County.* The Committee on Water Supply, etc., Howard Murphy, C. E., chairman, made a report in reference to the drowned lands in Exeter and Wyoming boroughs, Luzerne county, reaffirming the report of Dr. Engelman on the same subject in every particular, and recommending that measures be taken to compel the abatement of the nuisance. The report was accepted and referred for publication, and the Secretary was instructed to take the necessary legal steps to enforce the order of the Board.

*Committee on Adulterations.* The Committee on Adulterations, etc., Pemberton Dudley, M. D., chairman, reported in reference to the recent cases of poisoning by chrome yellows in Philadelphia, presenting a paper by Dr. Stewart, of Philadelphia, upon the subject, and also to recent analyses of artificial foods and to the use of salicylic acid in certain brands of bottled beer. The report was accepted.

*Committee on Sanitary Legislation.* The Committee on Sanitary Legislation, etc., Dr. David Engelman, chairman, reported that it had been deemed advisable to delay the publication of the compendium in order to introduce the laws passed at the last session of the Legislature, some of which were of considerable importance to the Board. The report was accepted.

The President then appointed the standing committees for the ensuing year as follows:

1. Executive Committee—Drs. Dudley, Edwards, Lee and Mr. Murphy.
2. Committee on Registration and Vital Statistics—Drs. Lee and Groff.
3. Committee on Preventable Diseases and the Sanitary Supervision of Travel and Traffic—Drs. Edwards and Dudley.
4. Committee on Water Supply, Drainage and Mines—Mr. Howard Murphy and Dr. McClelland.
5. Committee on Public Institutions and School Hygiene—Dr. McClelland and Mr. Murphy.
6. Committee on Adulterations, Poisons and Other Special Sources of Danger to Life and Limb—Drs. Dudley and Engelman.
7. Committee on Sanitary Legislation, Rules and Regulations—Drs. G. G. Groff and Dudley.

Under the head of unfinished business, the report of the inspection of Camp Hancock was called up by the Secretary, and the report, together with the reports of the officers of the day, was referred to the chairman of the Committee on Preventable Diseases, with instructions to prepare and present to the Board at its next regular meeting a manual of camp hygiene.

The Secretary also called up that portion of his report which referred to the Ninth International Medical Congress, and moved that the resolutions adopted by the congress (which he said were nearly identical with those adopted by the Sixth International Congress of Hygiene and Demography at Vienna, which was in session so soon after that there could have been no collusion in the matter) on the subject of hygienic education be reaffirmed by this Board. It was carried.

*Conference on Quarantine of the Delaware Suggested.* The portion of the Secretary's report which recommended that a conference on the more efficient quarantine of the Delaware river and bay be suggested to his Excellency the Governor of the State, with a view to obtaining the coöperation of the Governors of Delaware and New Jersey in obtaining a grant for that purpose from the President of the United States, was then discussed, and the Secretary was instructed to address a communication to the Governor upon the subject.

*Italian Immigrants to have Clean Bills of Health.* The suggestion of the Secretary that the Board should express to the Supervising Surgeon General of the Marine Hospital Service the opinion that it is expedient to forbid immigrants to land at our ports from Italian ports unless provided with certificates of freedom from infection, signed by competent authorities, was also adopted, and the Secretary was instructed to communicate with Surgeon General Hamilton upon the subject.



*Annals of Hygiene for Teachers.* The secretary was then instructed to address a communication to the Superintendent of Public Instruction suggesting to him the expediency of distributing the annals of hygiene among the school teachers as a means of acquainting the people with sanitary laws.

*Appointment of Dr. Sibbald as Vaccine Inspector.* Under the head of new business, the Secretary nominated Dr. James Sibbald, of Wissahickon, as vaccine inspector for the Lower Merion District. The Secretary explained that there was a long strip of land on the opposite side of the Schuylkill from Manayunk, known as Pencoyd, which, being outside of the city limits, did not have the benefit of the city vaccine regulations. The children from there came to school on the Philadelphia side of the river, and as they were not vaccinated to any considerable extent, this state of things formed a constant menace to Philadelphia. The nomination was confirmed.

*Appointment of Dr. Spencer M. Free as Medical Inspector for the Western Slope.* The Secretary nominated Dr. Spencer M. Free, of Beechtree, as medical inspector for the Western Slope District comprising the counties of Indiana, Jefferson, Elk, Cameron, McKean, Clarion and Armstrong. The nomination was confirmed.

*Letters.* The Secretary reported that the number of letters received since July 13, had been one hundred and forty (140), the number written had been two hundred and twenty-one (221).

*Books.* The number of books received by exchange with other boards and scientific bodies had been twenty-seven (27).

*Pamphlets.* The number of pamphlets similarly received, twenty-six (26).

*Circulars.* About four thousand pages of circulars in reference to the prevention of disease and in reference to infant hygiene had been distributed.

*Articles Furnished.* The list of articles furnished to the Board by the Secretary of the Commonwealth on requisition by the Secretary was then presented and ordered to be published.

*Financial Report.* The report of the Secretary as treasurer showed the total disbursements of the Board since last meeting to have been five hundred and fifty-three dollars and sixty-seven cents (\$553.67), with a balance in the treasury of four hundred and twenty-nine dollars and forty-three cents. The report was accepted and ordered on file.

*Vouchers.* The Secretary then presented vouchers 173 to 177, which had been audited by the Executive Committee, amounting to one hundred and eighty-two dollars and one cent (\$182.01). They were approved.

On motion the Board then adjourned.

BENJAMIN LEE,  
Secretary.

## FINANCIAL REPORTS.

April 14, 1887.

The Secretary, acting as treasurer, begs leave respectfully to report that there was remaining in the treasury October 1, 1886, . . . . .	\$330 18
That there was received from the Auditor General, December 3, 1886, by warrant for the quarter ending February 28, 1887, . . . . .	1,250 00
And March 2, 1887, by warrant for the quarter ending June 1, 1887, . . . . .	1,250 00
Making total receipts, . . . . .	<u>\$2,830 18</u>
That there have been expended during the same period for incidental expenses, . . . . .	\$314 23
For postage, . . . . .	224 35
For traveling expenses, . . . . .	352 45
For inspections, etc., . . . . .	541 88
For clerical expenses, . . . . .	150 00
For salary of Secretary, . . . . .	<u>1,100 00</u>
Making total expenditures, . . . . .	<u>2,682 91</u>
And leaving a balance in the treasury of . . . . .	\$147 27
All of which is respectfully submitted.	

BENJAMIN LEE,  
*Secretary.*

July 13, 1887.

The Secretary, acting as treasurer, begs leave respectfully to report: That there was remaining in the treasury, April 14, 1887, . . . . .	\$147 27
That there was received from the Auditor General, June 11, 1887, by warrant for the quarter ending August 31, 1887, . . . . .	750 00
Making a total of receipts of . . . . .	<u>\$897 27</u>
That there have been expended during the same period for incidental expenses of the Board, . . . . .	\$200 54
Traveling expenses, . . . . .	83 63
Inspections, . . . . .	90 00
Analyses, . . . . .	215 00
Clerical expenses, . . . . .	<u>75 00</u>
	664 17
Leaving a balance in the treasury of . . . . .	\$233 10
All of which is respectfully submitted.	

BENJAMIN LEE,  
*Treasurer.*

November 9, 1887.

The Secretary, as treasurer, begs leave respectfully to report that there was remaining in the treasury July 13, 1887, . . . . .	\$233 10
That there was received from the Auditor General, September 4, 1887, a warrant for . . . . .	750 00
Making a total of receipts of . . . . .	\$983 10
That he has disbursed during the same period for	
postage, . . . . .	\$29 07
Traveling expenses of the Board, . . . . .	130 73
Inspections, . . . . .	147 17
Clerical expenses, . . . . .	200 00
Preparing circulars, . . . . .	13 12
Incidental expenses, . . . . .	33 58
Making a total of disbursements of . . . . .	553 67
And Leaving a balance in the treasury of . . . . .	\$429 43
Respectfully submitted.	

BENJAMIN LEE,  
*Secretary as Treasurer.*

## STATEMENT

*of stationery required by the State Board of Health, for the year ending the first Monday of June, 1888.*

- 6 oz. pure rubber elastic bands, No. 32.
- 1 ream royal Irish linen, packet note paper, unruled, with envelopes to match.
- 1 envelope opener.
- 2 desk rulers.
- 1 mucilage stand and brush.
- $\frac{1}{2}$  dozen Davison's velvet rubbers.
- 1 steel check cutter.
- 4 bottles cyclostyle ink.
- 5 quires cyclostyle paper.
- 4 pints combined writing and copying ink.
- 1 Gazeteer of Pennsylvania.
- 1 Directory of Philadelphia.
- $\frac{1}{4}$  dozen pyramid pins.
- $\frac{1}{2}$  dozen scratch memoranda.
- 2 pints Caw's black ink.
- 1 quart mucilage.
- 500 white envelopes for business note paper.
- 1 dozen sheets blotting board, white, best quality.
- 1 box Leon & Isaacs stub-pens.
- Maximum price, forty dollars.

## STATEMENT

*of supplies required by the State Board of Health for the year ending the first Monday of June, 1888.*

2 china soap dishes.  
1 dozen Pear's scented toilet soap.  
1 dozen huckaback towels.  
1 waste-paper basket.  
Maximum price, seven dollars.

## STATEMENT

*of furniture required by the State Board of Health, for the year ending the first Monday of June, 1888.*

1 rug, Brussels, 55 x 44, . . . . .	\$7 50
1 rug, Smyrna, 108 x 72, . . . . .	20 00
1 rug, Smyrna, 108 x 72, . . . . .	20 00
1 cane seated office stool, . . . . .	1 50
1 fire proof safe (maximum price), . . . . .	200 00
1 small umbrella stand, . . . . .	3 00
1 piece maroon cloth for desk cover, 90 x 24, \$1 50 per yard.	
2 sheep skin mats, 28 x 18, . . . . .	6 00
1 carpet hassock, . . . . .	1 25
Maximum price, . . . . .	\$259 25

CATALOGUE OF BOOKS AND PAMPHLETS RECEIVED BY THE  
LIBRARY OF THE STATE BOARD OF HEALTH, FROM DECEMBER 1, 1886, TO DECEMBER 1, 1887.

## Books.

Ninth Annual Report of the Board of Agriculture of Pennsylvania, 1885.  
The Annual Report of the Health Officer of the City and County of San Francisco, 1886.  
The Vital Statistics of Glasgow.  
Seventh Annual Report of the State Board of Health of South Carolina, 1886.  
Charter and Ordinance of the City of Oil City, 1882.  
Fifth Annual Report of the State Board of Health of New York.  
Sixth Annual Report of the State Board of Health of New York.  
Fourteenth Annual Report of the Health Department of Cleveland, 1886.  
Eleventh Report of the State Board of Health of Minnesota, 1884-6.  
Biennial Report of the State Board of Health of West Virginia, 1885-6.  
Fifteenth Annual Report of the Board of Health of Boston, 1886.



- The Eleventh Report of the State Board of Health of Minnesota, 1884-6.
- Biennial Report of the State Board of Health of North Carolina, 1887.
- Second Annual Report of the State Board of Health of Kansas, 1886 (5 copies).
- The Annual Report of the State Board of Health of New Jersey, 1886.
- The Annual Report of the Health Department of Baltimore, 1886.
- The Report of the Board of Health of Reading, 1886.
- Eighth Annual Report of the Board of Health of Memphis, 1886.
- Tenth Annual Report of the Managers of the Sanitarian Association, Philadelphia, 1886.
- The Report of the State Agricultural Society of Pennsylvania, 1886.
- Report of the State Board of Health of Connecticut, 1886 (6 copies).
- Annual Report of the Local Board of Health of Toronto.
- Report of Secretary of Internal Affairs of the Commonwealth of Pennsylvania.
- Fifth Annual Report of Provincial Board of Health of Ontario, 1886.
- Thirty-fourth Quarterly Report of the Pennsylvania Board of Agriculture.
- Report of the Borough of Birmingham, 1886.
- Twentieth Annual Report of Health Department of Cincinnati, 1886.
- Eighteenth Annual Report of State Board of Health of Massachusetts.
- Public Health Report of City of Pittsburg, 1886.
- First Annual Report of Ohio State Board of Health and Proceedings of Sanitary Convention at Warren, 1887.
- Tenth Annual Report of Health Commissioner.
- Tenth Annual Report of Wisconsin State Board of Health.
- Fifth Annual Report of Indiana State Board of Health.
- Ninth Annual Report of Rhode Island State Board of Health.
- Second Annual Report of Maine State Board of Health.
- Public Health, 1886.
- Laws of Pennsylvania for 1887 (7 copies).
- Forty-fifth Registration Report, Boston, 1886.
- Sixth Annual Report of New Hampshire State Board of Health, 1887 (11 copies).
- Smull's Legislative Hand Book, 1887 (4 copies).
- Manuals of Councils, 1887 and 1888 (3 copies).
- Second Annual Report of State Board of Health of Maine, 1886.
- Medical Communications of Massachusetts Medical Society, 1887.
- Transactions of Tennessee Medical Society, 1887.
- Eighty-fifth Annual Report of Philadelphia Water Department, 1886 (2 copies).
- Seventh Annual Report of New York State Board of Health, 1887.
- Report of Michigan State Board of Health, 1886-87 (2 copies).

**From the State Board of Health of Wisconsin.**

First Annual Report of State Board of Health of Wisconsin, 1876.  
Second Annual Report of State Board of Health of Wisconsin, 1877.  
Third Annual Report of State Board of Health of Wisconsin, 1878.  
Fourth Annual Report of State Board of Health of Wisconsin, 1879.  
Fifth Annual Report of State Board of Health of Wisconsin, 1880.  
Sixth Annual Report of State Board of Health of Wisconsin, 1881 (2 copies).  
Ninth Annual Report of State Board of Health of Wisconsin, 1885.  
Transactions of the State Medical Society of Wisconsin, 1880.  
Transactions of the State Medical Society of Wisconsin, 1881.  
Transactions of the State Medical Society of Wisconsin, 1882.  
Transactions of the State Medical Society of Wisconsin, 1883.  
Transactions of the State Medical Society of Wisconsin, 1884.  
Transactions of the State Medical Society of Wisconsin, 1885.  
Transactions of the State Medical Society of Wisconsin, 1886.

**Pamphlets.**

Manual for use of State Board of Health of Massachusetts.  
Conference of the American Shipping and Industrial League, held at Pensacola, Fla., November 10-12, 1886. Joseph Holt, M. D.  
Inter State Notification : Its Principles as Demonstrated in the History of Yellow Fever at Biloxi, Mississippi, 1886. Joseph Holt, M. D.  
Typhoid Fever: Its Restriction and Prevention. State Board of Health of Ohio.  
Diphtheria: Its Restriction and Prevention (2 copies). State Board of Health of Ohio.  
Scarlet Fever: Its Restriction and Prevention (2 copies). State Board of Health of Ohio.  
Rules for Checking the Spread of Contagious or Infectious Diseases (3 copies). Provincial Board of Health of Toronto.  
The Legal Protection of the Present Water Supply of Philadelphia. Wm. Wilkins Carr.  
Report of the Proceedings of the Illinois State Board of Health, 1886 (4 copies).  
Study of Pulmonary Consumption. Thomas J. Mays, M. D.  
An Ordinance in Relation to the Crematory, city of Wheeling. Board of Health of Wheeling.  
Provision for Idiotic and Feeble-Minded Childen. Isaac N. Kerlin, M. D.  
Abstract of the Proceedings of the State Board Health of Michigan.  
Rules and Regulations of the Board of Health of Williamsport.  
The Dairies, Cow Sheds and Milk Shops Order, 1885-6. Local Government Board of England.  
Contagious Diseases (Animals), October, 1878. Local Government Board of England.



- Contagious Diseases (Animals), October, 1886. Local Government Board of England.
- Duties of Selectmen in Regard to the Preservation of Public Health, 1887.
- Report of the Special Committee on the Disinfection of Rags. American Public Health Association.
- Annual Report of the Board of Health of Richmond, 1886.
- Proceedings and Addresses at a Sanitary Convention, November 18, 19, 1887. Ohio State Board of Health.
- Annual Report of Trustees of State Hospital for the Insane at Warren, Pa., 1886.
- Annual Report of Grosse Isle Quarantine Station. F. Montizambert, M. D.
- Fourth Annual Report of the Superintendent of Health of Providence.
- Report of the Committee on Disinfectants of the American Public Health Association, 1886.
- Preliminary Report on a System of Sewage Disposal at the State Homeopathic Asylum for the Insane, Middletown, N. Y. (2 copies). Wm. Paul Gerhard, C. E.
- Practical Results in Restricting Diphtheria. Board of Health of Michigan.
- Report on the Mid-Warwickshire District, 1886.
- Annual Report of Board of Health, City of Toledo, 1886.
- The Report of Board of Health, City of Keokuk, 1887.
- Second Annual Report of Board of Health, City of Newark, 1887.
- Annual Report of Registrar of Island of Jamaica, 1886.
- Fourteenth Annual Report of Board of Health, City of New Haven, 1886.
- Report of Proceedings at Belvidere Hospital, Glasgow, Scotland.
- Paper on the Poisoning by Cheese, Milk, etc. Victor C. Vaughan, M. D., Ph. D.
- Paper on the Care and Management of Infants and Children. State Board of Health of Ohio.
- Report of Proceedings at Quarterly Meeting of Illinois State Board of Health.
- Lead Chromate Poisoning (11 copies). David Denison Stewart, M. D.
- Transactions of Luzerne County Medical Society, 1887.
- Annual Meeting of Association of Executive Health Officers, 1887.
- Proceedings, etc., of a Public Health Conference held at Louisville. State Board of Health of Kentucky.
- Paper on the Value of Chemical Analysis of Potable Waters. Willis O. Tucker, Ph. D.
- Report of the Chemical Examination of the Waters of Public Wells. Willis G. Tucker, Ph. D.
- Annual Report of Commissioner of Pensions.

Triennial Catalogue and Directory of Massachusetts Medical Society, 1887.

Transactions of Med. and Chi. Faculty of Maryland, 1887.

Lectures and Addresses at Farmers' Institutes in Ohio, 1886-87. Ohio State Board of Agriculture.

Annual Report of Philadelphia Water Department, 1883.

Annual Report of Buffalo Health Department, 1886.

Necessity of Teaching Hygiene in Schools. W. C. Cook, M. D.

Thirty-fifth Quarterly Report of Pennsylvania Board of Agriculture.

**Purchased.**

French Dictionary,

- Contagious Diseases (Animals), October, 1886. Local Government Board of England.
- Duties of Selectmen in Regard to the Preservation of Public Health, 1887.
- Report of the Special Committee on the Disinfection of Rags. American Public Health Association.
- Annual Report of the Board of Health of Richmond, 1886.
- Proceedings and Addresses at a Sanitary Convention, November 18, 19, 1887. Ohio State Board of Health.
- Annual Report of Trustees of State Hospital for the Insane at Warren, Pa., 1886.
- Annual Report of Grosse Isle Quarantine Station. F. Montizambert, M. D.
- Fourth Annual Report of the Superintendent of Health of Providence.
- Report of the Committee on Disinfectants of the American Public Health Association, 1886.
- Preliminary Report on a System of Sewage Disposal at the State Homeopathic Asylum for the Insane, Middletown, N. Y. (2 copies). Wm. Paul Gerhard, C. E.
- Practical Results in Restricting Diphtheria. Board of Health of Michigan.
- Report on the Mid-Warwickshire District, 1886.
- Annual Report of Board of Health, City of Toledo, 1886.
- The Report of Board of Health, City of Keokuk, 1887.
- Second Annual Report of Board of Health, City of Newark, 1887.
- Annual Report of Registrar of Island of Jamaica, 1886.
- Fourteenth Annual Report of Board of Health, City of New Haven, 1886.
- Report of Proceedings at Belvidere Hospital, Glasgow, Scotland.
- Paper on the Poisoning by Cheese, Milk, etc. Victor C. Vaughan, M. D., Ph. D.
- Paper on the Care and Management of Infants and Children. State Board of Health of Ohio.
- Report of Proceedings at Quarterly Meeting of Illinois State Board of Health.
- Lead Chromate Poisoning (11 copies). David Denison Stewart, M. D.
- Transactions of Luzerne County Medical Society, 1887.
- Annual Meeting of Association of Executive Health Officers, 1887.
- Proceedings, etc., of a Public Health Conference held at Louisville. State Board of Health of Kentucky.
- Paper on the Value of Chemical Analysis of Potable Waters. Willis O. Tucker, Ph. D.
- Report of the Chemical Examination of the Waters of Public Wells. Willis G. Tucker, Ph. D.
- Annual Report of Commissioner of Pensions.

Triennial Catalogue and Directory of Massachusetts Medical Society, 1887.

Transactions of Med. and Chi. Faculty of Maryland, 1887.

Lectures and Addresses at Farmers' Institutes in Ohio, 1886-87. Ohio State Board of Agriculture.

Annual Report of Philadelphia Water Department, 1883.

Annual Report of Buffalo Health Department, 1886.

Necessity of Teaching Hygiene in Schools. W. C. Cook, M. D.

Thirty-fifth Quarterly Report of Pennsylvania Board of Agriculture.

**Purchased.**

French Dictionary,



- Contagious Diseases (Animals), October, 1886. Local Government Board of England.
- Duties of Selectmen in Regard to the Preservation of Public Health, 1887.
- Report of the Special Committee on the Disinfection of Rags. American Public Health Association.
- Annual Report of the Board of Health of Richmond, 1886.
- Proceedings and Addresses at a Sanitary Convention, November 18, 19, 1887. Ohio State Board of Health.
- Annual Report of Trustees of State Hospital for the Insane at Warren, Pa., 1886.
- Annual Report of Grosse Isle Quarantine Station. F. Montizambert, M. D.
- Fourth Annual Report of the Superintendent of Health of Providence.
- Report of the Committee on Disinfectants of the American Public Health Association, 1886.
- Preliminary Report on a System of Sewage Disposal at the State Homeopathic Asylum for the Insane, Middletown, N. Y. (2 copies). Wm. Paul Gerhard, C. E.
- Practical Results in Restricting Diphtheria. Board of Health of Michigan.
- Report on the Mid-Warwickshire District, 1886.
- Annual Report of Board of Health, City of Toledo, 1886.
- The Report of Board of Health, City of Keokuk, 1887.
- Second Annual Report of Board of Health, City of Newark, 1887.
- Annual Report of Registrar of Island of Jamaica, 1886.
- Fourteenth Annual Report of Board of Health, City of New Haven, 1886.
- Report of Proceedings at Belvidere Hospital, Glasgow, Scotland.
- Paper on the Poisoning by Cheese, Milk, etc. Victor C. Vaughan, M. D., Ph. D.
- Paper on the Care and Management of Infants and Children. State Board of Health of Ohio.
- Report of Proceedings at Quarterly Meeting of Illinois State Board of Health.
- Lead Chromate Poisoning (11 copies). David Denison Stewart, M. D.
- Transactions of Luzerne County Medical Society, 1887.
- Annual Meeting of Association of Executive Health Officers, 1887.
- Proceedings, etc., of a Public Health Conference held at Louisville. State Board of Health of Kentucky.
- Paper on the Value of Chemical Analysis of Potable Waters. Willis O. Tucker, Ph. D.
- Report of the Chemical Examination of the Waters of Public Wells. Willis G. Tucker, Ph. D.
- Annual Report of Commissioner of Pensions.

Triennial Catalogue and Directory of Massachusetts Medical Society, 1887.

Transactions of Med. and Chi. Faculty of Maryland, 1887.

Lectures and Addresses at Farmers' Institutes in Ohio, 1886-87. Ohio State Board of Agriculture.

Annual Report of Philadelphia Water Department, 1883.

Annual Report of Buffalo Health Department, 1886.

Necessity of Teaching Hygiene in Schools. W. C. Cook, M. D.

Thirty-fifth Quarterly Report of Pennsylvania Board of Agriculture.

**Purchased.**

French Dictionary,





PART II.



APPENDICES.



- Appendix A. Reports of Standing Committees.
- Appendix B. Reports of Inspections.
- Appendix C. Annual reports of Cities and Towns.
- Appendix D. Bills introduced in the Legislature or supported by the  
Committee on Sanitary Legislation, Session of 1887.
- Appendix E. Reports of Conferences and Conventions.
- Appendix F. Circulars and Forms.
- Appendix G. Annual Address.
- Appendix H. Quarantine, Epidemics and Special Sources of Disease.
- Appendix I. Correspondence.
- Appendix K. Complaints and Orders for Abatement of Nuisances.
- Appendix L. By-Laws, Organization and Regulations of the Board.



## APPENDIX A.

---

### REPORTS OF STANDING COMMITTEES.

---

1. Report of Executive Committee—Pemberton Dudley, M. D., Chairman.
  2. Report of Committee on Registration and Vital Statistics—Benjamin Lee, M. D., Chairman.
  3. Report of Committee on Preventable Diseases, Disinfection and Supervision of Travel and Traffic—J. F. Edwards, M. D., Chairman.
  4. Report of Committee on Water Supply, Drainage, Sewerage, Topography and Mines—Howard Murphy, C. E., Chairman.
  5. Report of Committee on Adulterations, Poisons, Explosives and other sources of Danger to Life and Limb—Pemberton Dudley, M. D., Chairman.
  6. Report of Committee on Sanitary Legislation, Rules and Legislation—David Engelman, M. D., Chairman.
- 

#### I. REPORTS OF EXECUTIVE COMMITTEE.

---

[February 23, 1887.]

The Executive Committee begs leave respectfully to report that it has held two meetings since the last meeting of the Board, one on November 29, 1886, at the executive office, at which bills to the amount of \$184.90 were audited and approved, comprising vouchers 117 to 120, and one on February 23, 1887, also at the executive office, at which bills to the amount of \$1,091.50 were audited and approved, comprising vouchers 121 to 135.

(Signed)                      PEMBERTON DUDLEY,  
*Chairman Executive Committee.*

[July 13, 1887.]

The Executive Committee begs leave respectfully to report that it has held two meetings since the last meeting of the Board, one at the executive office, May 31, at which bills to the amount of \$1,208.68 were audited and approved, comprising vouchers 136 to 152, and one at the Supreme Court room, Harrisburg, July 13, at which bills to the amount of \$415.34 were audited and approved, including vouchers 153 to 163 inclusive.

PEMBERTON DUDLEY,  
*Chairman Executive Committee.*



[November 9, 1887.]

The Executive Committee begs leave respectfully to report that it has held three meetings since the last meeting of the Board—one on July 20, 1887, at the executive office, at which bills to the amount of \$23.36, were audited and approved, comprising vouchers 164 and 165; one on August 31, 1887, at the executive office, at which bills to the amount of \$290.80 were audited and approved, comprising vouchers 166 to 172; and one on November 9, 1887, at Harrisburg, at which bills to the amount of \$182.01 were audited and approved, comprising vouchers 173 to 177.

(Signed.)                      PEMBERTON DUDLEY,  
*Chairman Executive Committee.*

---

## II. REPORT OF COMMITTEE ON REGISTRATION AND VITAL STATISTICS.

---

The Committee on Registration and Vital Statistics begs leave respectfully to report: That during the past six months it has been engaged in comparing and arranging forms for the concise and accurate reporting and tabulation of the returns of births, marriages and deaths and vital statistics generally, in the confident expectation that as the Legislature had assigned this duty to it, it would provide the means and create the machinery for performing the same. In this anticipation it has been completely disappointed. Not a single one of the measures which it proposed in connection with Committee on Medical Legislation has been permitted to become a law. Its hands are therefore tied. It may perhaps be possible to obtain partial and incomplete returns from county medical societies, and the committee, if so instructed by the Board, will make this effort, but as it will be purely voluntary and will depend upon the public spirit and good will of the officers of those societies, great uniformity in returns is not to be looked for. In the meantime no effort must be spared to impress the minds of the members of the next Legislature with the importance of this movement.

All of which is respectfully submitted.

BENJAMIN LEE,  
*Chairman.*

---

## III. REPORT OF THE COMMITTEE ON PREVENTABLE DISEASES AND THE SUPERVISION OF TRAVEL AND TRAFFIC.

---

The Committee on Preventable Diseases and Supervision of Travel and Traffic consider (using the words of Dr. C. A. Lindsley, of New Haven, Conn.,) that the most important duty of State Boards of Health for sometime to come will be the education of the public in

hygiene. The people must be first educated to the desirability of sanitary legislation, when, as a logical sequence, such legislation will become an inevitable reality. We know that hygiene is a most God-like science; we realize that laws directed to the prevention of disease are the most necessary requirements of a progressive community; we know that disease can be, to a great extent averted, that life can be prolonged and existence made more happy to the individual and more useful to the State, while it lasts; to use the words of Austria's Crown Prince, we know that "every single life represents a positive value. To maintain that life and preserve it intact, so far as the unalterable limit of life, is not only a dictate of humanity, but it should be the duty of all commonwealths in their self-interests."

With the distinguished Pettenkofer, we know that "health is a valuable possession for a man, and hygiene becomes, therefore, an important part of national economy." We know all this, but, unfortunately, we are as yet in the very decided minority, though, with giant strides, we are hastening to assume the place of the majority.

It would seem that the Board and in a special manner this particular committee has two very important duties to perform. In the first place we must impart to the general public that knowledge of hygiene which is now almost confined to that small army of sanitarians who have been blessed with an appreciation of its beneficence. We must make every citizen of Pennsylvania thoroughly realize that hygiene is not an occult science belonging solely to the domain of medicine and of interest only to physicians. We must cause them to realize that hygiene is a *domestic* science, that it pertains to and belongs to the home and the heart; that it is comprehensible to and intelligible by the man or woman of average intelligence, in its general application, and that no special scientific course is necessary that one may become a *practical* sanitarian. We must teach that since hygiene has to deal with the physical, mental, moral and physical aspects of mankind it should be the most *popular* of all sciences; that it is truly, as says the reporter of the recent International Congress of Hygiene, a *democratic* science. That we may accomplish this purpose, we must not shroud our teachings with the mantle of scientific mystery; we must go forth as latter-day crusaders, armed with the strength of our convictions, to preach throughout the length and breadth of the State the glorious gospel of hygiene. Your committee, therefore, asks the approval and sanction of the Board in their proposal to inaugurate a "Sanitary Crusade" in the State of Pennsylvania. It is their idea that an illustrated popular lecture, calculated to convince the public that hygiene is a practical *exact* science, should be delivered in every town of any size in the State, and that the effort should be made at each of these lectures to organize a local sanitary association in the town in which the lecture has been delivered. In the second place we desire to arouse an interest among our legislators on the subject

of hygiene. This we feel could be accomplished by interesting the Senators and Representatives in the various portions of the State in which these lectures are delivered, and endeavoring to convince them of the practical benefits of sanitary legislation. This briefly outlines the "Sanitary Crusade" proposed by this committee, and to place the matter in proper shape we offer the following resolution:

*Resolved*, That the State Board of Health hereby approves of and authorizes the "Sanitary Crusade" as recommended by its Committee on Preventable Diseases.

From the Philadelphia *Press* we learn that Dr. John H. Rauch, Secretary of the Illinois State Board of Health, has written the quarantine commissioners at New York requesting that all Italian immigrants coming from cholera infected ports should be given certificates that the party is not suffering from cholera and the health authorities notified of such as may go to Chicago or pass through Illinois. He has also written the managers of the trunk lines requesting that they do not carry any Italian immigrants who have not received such certificates.

*Resolved*, That this Board heartily endorses Dr. Rauch's action and requests the Secretary of the Board to forward a similar communication to the quarantine commissioners at New York and the managers of the trunk lines in reference to such immigrants as may be destined for Pennsylvania.

Respectfully submitted.

JOSEPH F. EDWARDS, M. D.,  
*Chairman.*

---

#### IV. REPORT OF THE COMMITTEE ON WATER SUPPLY, DRAINAGE, SEWERAGE, TOPOGRAPHY AND MINES.

---

PHILADELPHIA, November 9, 1887.

*To the President and Members of the State Board of Health:*

GENTLEMEN: In the matter of the drainage of the Schooley Shaft into the boroughs of Wyoming and Exeter, Luzerne county, Pennsylvania, of which mine Mr. Nelson Cowan is the proprietor, your Committee on Water Supply, Drainage, Sewerage, Topography and Mines, have respectfully to report, that on July 21-23, 1887, the localities in question were visited by Dr. Benjamin Lee, Secretary, Dr. David Engleman and the chairman of the committee, and were thoroughly examined and inspected in company with Dr. Charles P. Knapp, a local physician of evident professional ability, general culture and sound practical common sense. As you are aware, your committee had the benefit as well of the results of the very thorough investigation of the pathogenic conditions which had already been made by Dr. David Engelman who accompanied us.

Our investigation and all admissible testimony fully confirmed Dr. Engelman's conclusions.

The fact that the swamps created by the discharge of this mine, have had and continue to have a disastrous effect upon the health of the community, your committee regard as already established to the entire satisfaction of the Board, and, therefore, addressed themselves to the ascertaining and suggestion of means to remove the cause.

This means they have found to be simple, inexpensive and available.

The difficulty arises from the overcharge of the small stream by the drainage of the mine, compelling it to overflow its natural channel and create swamps on the contiguous meadow lands.

The proprietor of the mine, whom we interviewed at length, maintained that he had a legal right to drain into a natural water course. This your committee does not dispute, when, as is probable in this case, the drainage itself is not of a character to pollute the stream, but to drain into a water-course and to exceed its natural carrying capacity and drown out the surrounding country are totally different in theory and effect.

The latter is opposed to all riparian practice and is too absurd to have any standing in law or equity, and even the proprietor himself and his employes, when this view of the matter was brought to their attention, seemed unable to even claim the right to continue it.

The remedy suggested by your committee is simply to pump the drainage a few feet higher than it is now pumped, which is a matter of almost inappreciable increase of expense to the proprietor of a fuel mine, and let it flow through an artificial ditch or, possibly part way, through terra cotta pipes or wooden box drains or trunks, direct to the Susquehanna river, by an easy, short and apparently available route.

We understood the proprietor to undertake to carry out this suggestion, but we learn from our Secretary that he has not done so, and we respectfully recommend that such compulsory means as the Board deem proper be proceeded with.

HOWARD MURPHY, C. E.,  
*Chairman.*

---

**V. REPORT OF THE COMMITTEE ON ADULTERATIONS, POISONS,  
EXPLOSIVES AND OTHER SOURCES OF DANGER TO LIFE AND  
LIMB.**

---

*To the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania :*

GENTLEMEN : The Committee on Adulterations, etc., begs leave respectfully to report, that considering the recent exposure of wholesale poisoning in the city of Philadelphia, by the use of chrome yellow,



for the purpose of simulating the color of eggs in buns, by certain bakers, to be a matter of grave importance, it has obtained from Dr. David D. Stewart, of Philadelphia, the physician who so carefully and laboriously traced the source of the evil, a full history of the affair with a complete list of the victims, which it offers for publication in the annual report. The committee also calls attention to the fact that recent analysis shows that many of the so called infants' foods are deficient in nutritive elements and that a large proportion of the beers bottled in this country contain salicylic acid.

These are but a few of the subjects constantly coming to the notice of your committee, which show the importance of a sufficient appropriation by the Legislature, to enable the Board to make thorough investigations in regard to adulterations.

Respectfully submitted,

PEMBERTON DUDLEY,

*Chairman.*

---

#### VI. REPORT OF THE COMMITTEE ON SANITARY LEGISLATION, RULES AND REGULATIONS.

---

The Committee on Sanitary Legislation begs leave respectfully to report that as a number of laws were passed by the last Legislature bearing more or less directly upon the work of this Board, it was thought advisable to defer the printing of the compendium of sanitary laws until accurate copies of the new acts could be obtained. These additions are now being made and it is hoped that the work will go to press immediately after the issue of the annual report.

The committee would call attention to the detailed statement of the various bills which it has prepared and urged upon the Legislature during the past year contained in the minutes of the special meeting held February 23, 1887:

Of these, the following passed both Houses and received the sanction of his Excellency the Governor, viz:

A bill authorizing the printing every year of five thousand (5,000) copies of the annual report of the Board.

A joint resolution authorizing the printing of five thousand (5,000) copies of the compendium of the sanitary laws of the Commonwealth, prepared by this committee.

A bill appropriating five thousand dollars annually for the uses of the Board for the next two years. The bill first offered asked for an appropriation of \$9,350 annually, but the appropriation was cut down in committee.

A bill to provide for the incorporation and government of cities of the third, fourth, fifth and sixth classes, which contained a clause establishing boards of health in such cities.

VERMONT



The bills which failed to pass were :

A bill to provide for the compensation of registration officers, and enlarge the powers of the Board.

A bill to repeal the clauses limiting the appropriation to the Board which exist in the act establishing the Board.

A bill to create county boards of health and health officers.

A bill preventing the pollution of streams and lakes.

A bill to regulate the transportation and storage of dynamite.

A bill to prevent the traffic in impure, unwholesome and adulterated milk, and

A bill to provide for the employment of an additional clerk in the Department of Internal Affairs to attend to the registration of vital statistics.

These bills were all of great importance in establishing the machinery of the Board and protecting the health of the people. The most important of them passed the House under the able championship of the Hon. S. T. Davis, M. D., but were lost in the Senate.

The committee trusts that each member of the Board will feel it to be his individual duty to use his influence both with members of the Legislature and with the people in the interval before the next meeting of that body, to establish a healthy sentiment in favor of wise and liberal sanitary legislation.

Respectfully submitted,

DAVID ENGELMAN, M. D.,  
*Chairman.*

*November 9, 1887.*



APPENDIX B.

---

REPORTS OF INSPECTORS.

---

1. Report of an inspection of Camp Hancock, by W. B. Atkinson, M. D., Medical Inspector, together with extracts from the reports of the Acting Brigade Medical Officers of the Day.
2. Report of inspections at Unionville, Coatesville and adjoining villages, Chester county, by W. B. Atkinson, M. D., Medical Inspector.
3. Report of an inspection at West Conshohocken, by W. B. Atkinson, M. D., Medical Inspector.
4. Report of an inspection of a bone-boiling establishment at Sellersville, by W. B. Atkinson, M. D., Medical Inspector.
5. Report of an inspection of the drainage of Altoona and Allegheny Furnace, Blair county, by C. B. Dudley, M. D., Medical Inspector.
6. Report of an inspection at Bryn Mawr, by W. B. Atkinson, M. D., Medical Inspector.
7. Reports of two inspections at Fernwood, Delaware county, by W. B. Atkinson, M. D., Medical Inspector.
8. Report of an inspection at Lansdowne, by W. B. Atkinson, M. D., Medical Inspector.
9. Report of an inspection at Natrona, Allegheny county, by L. H. Hunter, Inspector.
10. Report of an inspection at Chartiers, Allegheny county, by L. H. Hunter, Inspector.
11. Report of an inspection at Troy, Bradford county, by E. D. Payne, M. D., Medical Inspector.
12. Report of an inspection at Shenandoah, Schuylkill county, by D. J. McKibbin, M. D., Medical Inspector.
13. Report of an inspection of Gunner's Run, Philadelphia, by W. B. Atkinson, M. D., Medical Inspector.
14. Report of an inspection of the Executive Mansion at Harrisburg, by Benjamin Lee, M. D., Secretary.
15. Report of an inspection at Derry, Westmoreland county, by L. H. Hunter, Inspector.
16. Report of an inspection at General Wayne, by Benjamin Lee, M. D., Secretary.
17. Report of an inspection at Tarentum, by L. H. Hunter, Inspector.
18. Report of an inspection of the county jail at Carlisle, by R. Lowry Sibbet, M. D., Medical Inspector.
19. Report of an inspection at Covington, Tioga county, by E. D. Payne, M. D., Medical Inspector.

I. REPORT ON THE SANITARY CONDITION OF CAMP WINFIELD  
S. HANCOCK.\*

---

By Prof. WILLIAM B. ATKINSON, M. D., of Philadelphia,  
*Medical Inspector of the State Board of Health.*

---

On Tuesday, August 2, 1887, I visited the site of the camp at Mt. Gretna, Lebanon county.

The camp ground was admirably located on high rolling ground along the line of the Cornwall and Lebanon railroad, about midway between the termini of that road. It occupies about one hundred acres, with a most excellent drainage, so that in a short time after a remarkably severe storm the ground was left quite dry.

The commanding general had ordered the tents to be located in the open ground, so that the sun might rapidly dry them and the camp equipage in event of rain. The wisdom of this plan was shown on this visit, there having been a heavy downfall of rain during the previous night, and already by noon the tents, bedding, etc., were dry and fit for occupation.

The water supply for the entire camp was to be obtained from a reservoir containing 52,000 gallons of excellent water, obtained from a neighboring mountain stream, and I subsequently found that this was supplemented by a number of fine springs in various parts of the grounds. The water from this tank was conveyed to the neighborhood of each brigade by pipes, so as to avoid the necessity of much carriage on the part of the cooks and others. In the rear and to the right of the center of the camp was Lake Conewago, which was used by the men for bathing and washing. The ground was composed of a red sandy soil, through which moisture rapidly percolated, so as to leave the surface dry.

On Monday, August 8, I again visited the encampment, and in company with Dr. D. J. McKibbin, medical inspector of the Schuylkill district, who had also previously inspected the location on Tuesday after my departure, once more inspected the camp.

The commanding general, the surgeon general and all the officers with whom we came in contact received us most courteously, and in every way evinced their appreciation of the importance of our work.

We found, as I have before said, the water supply abundant and excellent, the soil farmable and well drained, the medical supplies well selected and all that was required, the food abundant and of good quality, and generally well prepared for the table. Also, in several companies we found an abundance of dairy products—milk and butter. We would urge in future encampments that this be made a special point. A proper amount of carbolate of lime and other disin-

---

\*The annual encampment of the National Guard of Pennsylvania, August 6-13th.

fectants had been placed at the disposal of every company. In the majority of cases, the latrines had been properly prepared and located, but in a number of instances the sinks and latrines were much too shallow, and not sufficiently wide to fully perform the work for which they were intended, and several that we noticed were in the rear of and too near the cook houses and tents.

But while we found much to commend and admire, yet it is undoubtedly the fact that it cannot be expected that a large body of men (there were 8,200 of the troops and perhaps enough servants and camp followers to make up full 10,000 men) could be suddenly taken from their homes and occupations and thrown into a camp, without much to learn and to practice, so that it would be surprising indeed if all could be carried on exactly as could be desired.

But few of the men seemed to understand that it was equally a part of their duty to aid in the policing of the camp as they would their own homes. Hence in a number of instances, there was gross carelessness as to the use of the latrines and some of them were in a decidedly filthy condition. Again, a few of the companies were unprovided with kitchens, and hence the cooking was very imperfectly performed. Again, in some cases, the drainage was so carelessly provided for that continuation of such a condition would have caused great detriment to the health of those compelled to remain and sleep in the immediate vicinity.

Perhaps one great cause of this is the fact that often the medical officers of a regiment are regarded and regard themselves as merely to be called upon in event of sickness or casualty, while the truth is that it is their duty to see to the sanitary conditions of the camp and thus prevent the encroachments of disease. It is a well known fact that in the early days of the late war this was the usual trouble and constantly kept the medical men at work to see that the causes of the disease and death outside of battle casualties were prevented from destroying the efficiency of the forces.

Again, there is such a great change in the habits of the men, in their food and surroundings that these also act as factors to produce sickness. As usual, what slight illness was found in camp was due to diarrhoeal trouble or constipation. Undoubtedly these were the result of the great change in food and habits. Almost invariably many men will indulge in over-eating, improper food, and the like which quickly cause derangement of digestion and its usual concomitants.

On occasions like this, from the prevalent desire to be with their comrades, and the pride both of officers and men to present full ranks, men are apt to be permitted to go to camp who are already suffering with sickness, even though it be of a slight form, or from carbuncles, injuries, etc., which are apt to be aggravated by camp life.

A camp is supposed to be an effort to reduce to practice in one continued school, the teachings of the individual classes. Now, while



the men and officers are week by week being drilled in the manual of arms and the evolutions of companies, little or nothing is done in reference to those equally important matters, the hygienic surroundings and sanitary regulations of each company. When brought into camp, both officers and men are wholly unacquainted with the care of the cuisine, the inspection of food, the obtaining of a water supply, the drainage of a camp, the preparation and maintenance in good order of the latrines, and the general policing of a camp. We would respectfully suggest and urge that it would be well if the medical officers were required to inspect the men of their respective commands prior to going into camp. That all the officers, and the men be fully instructed in all matters pertaining to the preservation of their health. It seems only to be expected that the surgeons shall care for the injured, while it should rather be their work to prevent sickness. When these matters are properly studied and provided for, then the annual camp will prove to be a valuable and correct preparation for war in time of peace.

Yours respectfully,

WILLIAM B. ATKINSON,

*Medical Inspector.*

Extracts from Reports of Medical Officers of the Day.

Through the courtesy of Col. Louis W. Read, Surgeon General of the National Guard of Pennsylvania, I have been permitted to examine the reports of medical officers of the day during the encampment. From these I make such extracts as seem to me to contain valuable hints or of interest as showing the improvement exhibited under the influence of the supervision and advice of the medical officers of the day. I invite attention to the reports numbered I and VIII as of especial value.

BENJAMIN LEE,

*Secretary.*

I.

CAMP HANCOCK, August 7, 1887.

Major OLIN F. HARVEY,

*Acting Surgeon Third Brigade, N. G. P.:*

MAJOR: I respectfully offer my report herewith as medical officer of the day for the Third brigade, for Saturday, August 6, 1887.

Of course, taking into consideration the recent entrance into camp of the different regiments, I could not expect to find matters in any other than crude shape, but in three regiments I found no out-sinks had been dug, and in one regiment not even a slop-sink had been prepared; the result was that the refuse was thrown all over the ground, which necessitated cleaning up twice.

Another thing I noticed was the ignorance displayed by several medical officers concerning their duties as camp officers. Their knowl-

edge and ability in treating the sick were unquestionable, but they seemed to have no knowledge of what was required of them in regulating the sanitation of their regiments.

*Thirdly.* I noticed that the surgeons had failed to instruct the officers that their camp limits extended to the guard line instead of the sink line; the result was that the rubbish was dumped all around the sinks and inside of the guard line, which necessitated a second removal.

*Fourthly.* I noticed that several of the surgeons did not know how to get their orders carried out as regarded policing their camp. Some went to the captain of the company in whose street they happened to be; some went to the first sergeant; some to the nearest private.

*Fifthly.* I noticed a disposition in some of the commanding officers of the regiments to rather slur over the medical department, not in any offensive way at all, but simply to regard it as a department concerning which they knew little and cared less, and which could be managed without particular interest or backing of theirs.

I would respectfully offer the following suggestions:

*First.* That the medical officers be instructed to see that the sinks be located and dug just as soon as practicable on reaching camp, as this precaution saves a great deal of unnecessary labor to the men in policing the camps. Of course it is impossible to make everything ship-shape at once, but if refuse is not allowed within the camp limits from the beginning it will save needless labor.

*Secondly.* I would suggest that medical officers be required to post themselves concerning their duties, in a sanitary point of view. They are responsible for the condition of the camp, and should know where to locate sinks and where to throw refuse. They should then show the company officers, so that rubbish need not be moved more than once. It is such carelessness as this which disgusts the men with the police duties of camp, and makes them slow to do police work.

*Thirdly.* I would suggest that the officers be instructed that the camp limits extend to the guard line and not to the sinks. They forget that the men live in all parts of the camp inside of the guard line, and it is just as necessary to keep the camp healthy behind, as before, the sink line.

*Fourthly.* That the medical officers be notified that the officer of the day will carry out their orders, and that he is the one to go to.

*Fifthly.* It seems to me that a good deal of the carelessness of the commanding officer is due to the surgeons themselves. If the colonels knew that their surgeons were enthusiastic in the management of their department and knew what ought to be done, and that the ability of the men to stand fatigue and exposure, depends to a great extent upon the efficiency of the medical department, and the support and interest received from the colonel, the colonels themselves, and the officers under them, would probably take much more interest in

the running of the medical department. If the surgeon is not backed by the colonel, the subordinate officers and men will certainly not respect him. If the surgeon insists that his department is just as important, and should be just as strictly managed as any other in the regiment, he will command more respect from officers and men.

---

## II.

CAMP HANCOCK, August 8, 1887.

OLIN F. HARVEY,

*Major and Acting Brigade Surgeon :*

SIR: I have the honor to make the following report as medical officer of the day, for August 7, 1887: I find the general sanitary condition of the camp of the Third brigade to be good. The drainage for the most part is very good, and especially the locality of the kitchens. The troops are supplied with abundant rations of good quality. The water supply is abundant, but appears turbid, from what cause I do not know. The regiments of the command are supplied with a sufficient number of sinks, generally well constructed, and kept in a fair condition. That part of the camp requiring the constant vigilance of its medical officers for the maintenance of any tolerably good sanitary state, is that portion extending from the kitchens to the guard line, embracing the locality of the sinks. I find this territory of the Fourth and Thirteenth regiments to contain heaps of police accumulation which should be removed. I would suggest the construction of narrow drains from the hydrants to the guard line for the purpose of carrying off waste water. I would emphatically call attention to the lack of hospital beds in all the hospitals. I also find some of the hospitals without floors.

---

## III.

CAMP HANCOCK, August 8, 1887.

Major SILLIMAN,

*Surgeon Second Brigade :*

Made inspection of Camp Hancock, yesterday, Second brigade, and find sanitary condition of camp good under existing circumstances. Sinks are not covered over as frequently as they should be, nor is the disinfectant used as much as it should be. Camp should be policed more. Do not hear of much sickness prevailing; sickness is diarrhœa. Find hospital in very poor condition, no flooring, some have no cots, no blankets, no mattresses. Should advise to have all those things on the ground when the troops come to camp.



## IV.

CAMP HANCOCK, *August 9, 1887.*

O. F. HARVEY,

*Third Brigade Surgeon :*

SIR: At inspection of the camp grounds of the Third brigade, I find the sanitary condition steadily improving, new and proper sinks have been dug, disinfectants freely used. By more care of the staff of the individual regiments, assisted by their commanders, the camp can be put in good order. With few exceptions the grounds are found cleanly; the most objectionable point evidently overlooked are the grounds back and below the regimental band tents.

## V.

CAMP W. S. HANCOCK, *August 9, 1887.*

Maj. JAMES E. SILLIMAN.

*Surgeon Second Brigade :*

SIR: I have the honor to report that the sanitary condition of Second brigade is superior as to the Fifth, Tenth and Fourteenth regiments. All the requests that were made by the Surgeon General, L. W. Read, have been complied with.

The waste water from the cook tents of Sixteenth regiment is allowed to accumulate in pools between the cook sinks and company sinks. Company sinks not disinfected. Company eating quarters not properly policed, except company "C" which is in first-class condition. The Eighteenth regiment have no screen for company sinks; some of the sinks are in a filthy condition and majority of company quarters are not properly policed as requested by the Surgeon-General.

The Fifteenth regiment quarters are in good condition save no policing in rear of the company quarters. I have urged that these deficiencies be corrected at once upon the inspection at 6 o'clock P. M.

## VI.

Maj. R. S. HUIDEKOPER,

*Surgeon-in-Chief First Brigade, N. G. P.*

SIR: I would respectfully report that in my general tour of duty, I noticed that the sinks and slop holes are too shallow, and the surroundings thereof are in but fair condition.

In compliance with your orders I directed that the scattered paper be gathered together and burned with the loose underbrush. I would respectfully suggest, if possible, that new sinks be dug not less than four feet deep, though this may be interfered with by the rocky soil and the contracted space occupied by the different regiments for this purpose.

## VII.

Col. T. J. HUDSON,

*Commanding Battalion of Artillery :*

SIR: As medical official of the day for August 8, 1887, I would respectfully report :

The sanitary condition of the battalion, viz: Battery "A" is in good condition except sinks, in which they are deficient. I ordered yesterday morning one to be made, but as yet the order has not been complied with.

Battery "B" sanitation good, was inspected by Surgeon General Read yesterday evening, and he complimented us on its condition.

Battery "C" sanitary condition is good.

---

VIII.

*August 12, 1887.*

Brigade Surgeon O. F. HARVEY :

SIR: I have the honor to report, that, as brigade medical officer of the day, I have inspected the camp of the Third brigade with a view to ascertaining its sanitary condition. The cleanliness of the camp streets was all that could be desired, as far as the mess tents of the various companies. Beyond that point, from the cook's quarters to the guard line, in nearly all the regiments of the brigade, there was not the proper care exercised in covering in the slop-sinks, or in policing the streets, debris being scattered here and there over that space mentioned. At my second inspection, made about 3 p. m., having called attention to the defect, I found the streets well policed back to the guard line, though many of the slop-sinks were in a bad condition, and report of such was made to the proper officer. Policing the streets is done at such an early hour that the condition of the slop-sinks is due largely to carelessness of the cooks, who, not being enlisted men, do not consider themselves amenable to camp discipline, nor do they feel impressed with the importance of sanitary regulations in their department.

In view of this fact, it seems to me that orders should be given each captain to see that the slop-sinks are covered in an hour after each meal, which would give sufficient time for the cooks to get rid of whatever slops accumulate from such meals, or in their preparation. In one regiment it was only by securing a special detail from each captain, to whom I reported the delinquency, that I secured its correction.



## II. REPORT OF INSPECTIONS AT UNIONVILLE, COATESVILLE AND ADJOINING VILLAGES, CHESTER COUNTY.

By W. B. ATKINSON, M. D., *Medical Inspector.*

*October 28, 1887.*

Dr. BENJAMIN LEE,

*Secretary and Executive Officer State Board of Health :*

DEAR SIR: In obedience to your instructions, on October 21st, I visited West Chester, and by the courtesy of Dr. Woodward was enabled to visit a number of the villages in that vicinity. At Unionville, Dr. Perdue kindly accompanied me to a number of houses in which cases of fever had occurred under his observation. He treated eight cases, all of which recovered under his judicious advice. One of these had a severe intestinal hemorrhage. One group of six cases occurred in a block of houses, all of which were built directly on the ground; they were old frame tenements, with stables and privies in the rear not beyond eighty feet away, with the ground in each case sloping towards the house. These privies were the ordinary frame shanty with a seat about two feet above the floor, no excavation, the excreta dropping upon the surface of the earth beneath and draining toward the houses. For drinking and culinary purposes nearly all the inhabitants of these houses relied upon one pump, which is so located that it receives the drainage of at least four privies, two stables and one pig pen. Other stables and privies are sufficiently near to aid in tainting this well. A single case is located in the rear of this block, and the pump of this house adjoins one privy and two stables. The only pump properly located with reference to the privy is not used by any of the families. Two other cases are located two blocks away, and while these houses are better as to construction, still their pumps are respectively seventy and eighty feet from privy and stable, with a drainage in each case favoring contamination of the drinking water. One case has just occurred in this block, simulating typhoid fever. This house has the same conditions as its neighbors.

The epidemic at Unionville appears now to have ceased. I would recommend that in each case the privy should be discontinued in its present form and the earth closet substituted; that the stable should be kept in a proper condition and well disinfected. Unfortunately, the houses are scarcely susceptible of improvement, and the purposes of health can only be served by their entire removal.

In the village of Hamorton no cases had occurred, though a number of supposed fever cases were reported which were all located at isolated houses some miles away. From information received of the attending physician I am led to the belief that few, if any, of these were real enteric fever. Nor could I learn of any flagrant transgression of the laws of hygiene.

On October 24th, I went to Coatesville, and by the courtesy of Dr. Swing I was enabled to visit a number of villages in that section. At Doe Run there had been no cases of fever. At Gum Tree in one house were two families numbering some ten persons. Of these six or seven had been ill with a fever of a low form, with a great deal of diarrhœa. One case was convalescent in the eighth week, and judging from the symptoms detailed, the entire absence of those pathognomonic of enteric fever, and by the peculiar diet which she was then partaking of, both Dr. Swing and I agreed that it was very unlike typhoid, and had probably been a case of entero-colitis.

This view was supported by the condition of the drinking water. The privy, the usual country one, was about fifty feet from the pump, with a down grade leading that way. Directly against the curb of the well was the hen house, a tumble-down shed with its floor of earth sloping to the well, so that its whole drainage was into the well. In addition, the whole wood work was rotten, so that the well itself was dangerous to approach. I was informed that always after a rain, and often without one, the drinking water closely resembled road washings and was sickening to smell, sight and taste.

I would recommend that the earth closet be substituted for the privy, that the hen house be removed and its site thoroughly cleaned, and that the rotten timbers of the well be replaced and the well itself thoroughly cleaned.

I passed through several other villages and nowhere found any evidence or report of the fever.

I append a map of the site of the cases at Unionville, kindly prepared for me by Dr. W. R. Perdue.

I was positively assured that there had been no unusual sickness at Oxford.

In this connection, I would remark upon the ease with which a sensation is created from slight foundation. Unfortunately, members of our profession are not always careful in their diagnosis, or in their nomenclature, and so every fever is carelessly called typhoid, every sore throat is diphtheria, and thus alarm is caused, spread abroad by the newspapers, and an epidemic is created on paper.

Perhaps one difficulty is the apparent confusion as to the diagnosis of enteric fever. In many instances, at the outset of an illness there may be a continuation of febrile symptoms for a few days, with looseness of the bowels, the name is suggested and the attendant carelessly allows himself to accept it, and when later the case rapidly convalesces, he is loath to be regarded as having made a wrong diagnosis. Thus another case of aborted typhoid is added to the list. *Absence of epistaxis, of iliac tenderness, of tympanitis, of continued high temperature, of emaciation, of the peculiar eruption,* all should cause the physician to hesitate as to pronouncing the case one of typhoid fever. Among the laity the use of the word *typhoid* indicat-

ing a low condition, as typhoid pneumonia, for example, is regarded as meaning a kind of typhoid fever. I have not seldom found this error to prevail in the profession as well, and thus is propagated an additional means by which the public is falsely led to believe that typhoid fever is epidemic in certain localities. Recently I have encountered a number of such instances, and more than once through the medium of the press, it has been heralded to the public that an epidemic of this fever is prevailing, thus causing a feeling of alarm which is extremely liable to work injury to business, and also to people of a nervous temperament.

I would, for these reasons, most earnestly urge that your Board should take some steps to bring this matter to the notice of the profession, in order that its members may no longer act as alarmists, and also bring discredit upon our general knowledge.

We may view this matter as even of greater importance when we reflect upon the fact that another and still more alarming disease is at our doors. With similar want of diagnostic skill or care, every case of cholera morbus would then be termed cholera and the direst results would be sure to follow.

Leaving these matters in your hands,

I remain, yours very truly,

W. B. ATKINSON,

*Medical Inspector.*

---

### III. REPORT OF AN INSPECTION AT WEST CONSHOHOCKEN, MONTGOMERY COUNTY.

By W. B. ATKINSON, M. D., *Medical Inspector.*

Dr. BENJAMIN LEE,

*Secretary and Executive Officer:*

DEAR SIR: In accordance with your instructions, I visited Conshohocken to-day. Met Drs. McKenzie, Stiles and Beaver, the latter the members of the board of health for the borough. I found that the Ballygomingo Creek was dammed about one-third of a mile from its mouth and hence was a shallow sluggish stream, not more than two feet deep at its best, and varying from a few feet to twenty in width. It was an exceedingly dirty sheet of water, being the sole drain for the refuse of the Bullock mills, the privies of these mills used by at least 100 hands, and the privies of about fifty houses located on its banks. Its color varies according to the dye stuffs or other refuse, and in the mornings the people say that the odor is intolerable. As the dam is not now used, it merely acts to retard the flow of the stream, which becomes a most excellent bed for the culture of disease germs.

I found that there had been several, in fact quite a number, of cases



of typhoid fever, and I was informed that an unusually large proportion of deaths had occurred.

I was shocked to learn from two ladies who had nursed a recent fatal case in West Conshohocken that they had been instructed by the attending physician, to empty all the excreta directly into the creek, that no effort had been made towards disinfection of these excreta until a person, not a physician, had informed them of the harm they were thus liable to cause. Each of the medical gentlemen with whom I conversed had given the strictest orders in their cases to bury the excreta as well as to use free and full disinfection. For at least four days in this particular case, this creek thus became the receptacle of typhoid fever germs and that too by the order of the physician, thus showing the most criminal negligence or ignorance or both.

The water of this creek is sometimes used for drinking purposes by the mill hands and others. But what is worse, it runs into the Schuylkill and about three miles below is pumped up into the reservoir which supplies the city in the vicinity of Germantown. Should an epidemic occur here its source could readily be traced. I would suggest that the medical man who acted as above mentioned should be cautioned as to any future neglect, and instructed as to hygienic precautions; that the creek from the dam to its mouth should be thoroughly disinfected with the hope of thus destroying any germs which undoubtedly are lying dormant and in a most favorable position for culture.

Drs. Stiles and Beaver of the health board of Conshohocken have no power in their own borough, and there is no board in West Conshohocken. A marked commentary in this matter is the fact that the physician attending the case which died in West Conshohocken was, until recently, a member of the health board of Conshohocken.

The chief burgess of West Conshohocken is Mr. George Bullock; that of Conshohocken is Mr. John H. Griffith.

Respectfully submitted.

W. B. ATKINSON,  
*Medical Inspector.*

---

#### IV. REPORT OF AN INSPECTION OF A BONE-BOILING ESTABLISHMENT AT SELLERSVILLE, BUCKS COUNTY.

---

By WILLIAM B. ATKINSON, M. D., *Medical Inspector.*

---

Dr. BENJAMIN LEE,

*Secretary and Executive Officer State Board of Health:*

DEAR SIR: In obedience to your instructions, on October 26, I went to Sellersville, Bucks county, and inspected establishment of Mr. Frank W. Miller, located on an eminence about half-a-mile from the village. It averages about one carcass a day the year round. The

whole place was carried on in a manner so primitive, that no attempt, in any way, was made to comply with the provisional regulations of this Board. The boiling was done in open wooden tanks, without condensers or any effort to carry off the noxious vapors. The bones were dried in an open room, without any outlet, and without any means for supplying fresh air except by the door of entrance. All the floors were of wood, filthy in the extreme, with abundance of opportunity for the passage to the ground beneath of the blood, filth, etc. The offal was permitted to accumulate on the dump, and only removed once in ten days, or when it had arrived at a sufficient quantity. The water supply was inadequate to any cleanliness, and I was informed that he frequently had to haul water to carry on his work. The drainage of the place was into a creek about a mile away, and was not apparently liable to contaminate the water supply of the village. The privy was not inside of the works. He informed me that he did not use any kind of disinfectant. The population of Sellersville is about 900, and almost universally complained of the offensiveness of this establishment.

I would recommend that he be notified to adopt at once the proper method to carry on his work. The absence of, and perhaps the inability to obtain, unless at great expense, an abundant supply of water is a very great objection to the location occupied by these works.

The building should be provided with smoke consumers, and the open tanks be substituted by steam-tight kettles or boilers, with proper condensers. The chamber for bone drying should be close, and supplied with a constant stream of fresh air. He should be required to remove the offal at shorter intervals, and to use disinfectants fully to every portion of his works.

All the floors being of wood should be removed, the space beneath thoroughly cleared of the putrefying substances which must have accumulated, and cement or other impervious flooring substituted.

In short, the whole place requires to be completely remodelled and made to conform to the demands of sanitary science.

Very respectfully,

WM. B. ATKINSON,  
*Medical Inspector.*

i



V. REPORT OF AN INSPECTION OF THE DRAINAGE OF ALTOONA  
AND ALLEGHENY FURNACE, BLAIR COUNTY.

By C. B. DUDLEY, M. D., *Medical Inspector.*

ALTOONA, PA., *July 25, 1887.*

DOCTOR BENJAMIN LEE, *Secretary and Executive Officer,*  
*State Board of Health, Philadelphia, Pa :*

DEAR SIR : Referring to yours of July 8, directing me to make a sanitary examination of the borough of Allegheny Furnace, with special reference to the relation which the sewerage of Altoona bears on the same, I beg to report as follows :

*First.* As to location. I send with this a blue-print which has been prepared by the Pennsylvania Railroad Company here, showing the location of the water streams and drainage, with other information, for a distance of eight or ten miles along the line of the railroad in the region of Altoona. We have drawn a red ink mark around the borough of Allegheny Furnace on this map, and have also made a mark in ink (red) alongside of the white one, which really shows the course of the sewerage. At the end of the red ink mark inside the city of Altoona is the end of the sewer for about half of Altoona. The sewerage goes both ways and about one-half of the city is drained toward Allegheny Furnace. Beginning at the end of the sewer, a small open stream receives the sewage. This stream is so small that in the summer season, the sewage is the principal liquid that flows in the stream. You will note that right at Allegheny Furnace, another stream called Mill Run joins the small stream, but Mill Run likewise becomes somewhat dry in warm weather, and most of the water is taken up for manufacturing purposes, so that it does not serve any purpose for diluting the sewage of Altoona. From the end of the sewer in the city to the city line is about seven-eighths of a mile, then from the city line to the point where the red ink mark ends, at which point the sewage is so far away from Allegheny Furnace and others that it becomes harmless, is about a mile. Along side of this stream as you note runs the public highway, and a small railroad which is used for transporting ore. Also, in the region enclosed by the red ink mark, there are scattering dwellings. The whole population of Allegheny Furnace affected by the sewerage matter is perhaps one hundred families. Mill Run brings down no sewerage of any kind, and in reality Altoona could hardly be held responsible for anything running into Mill Run. So much for location.

*Second.* The nuisance. There is no question whatever, but that the sewerage of Altoona is a very serious nuisance and seriously threatens the health of Allegheny Furnace. It is almost impossible in hot weather to drive along the public highway, which is in reality the main road between Altoona and Hollidaysburg, without holding the nose, and to

those living in the region, at times the odor is almost unbearable. It is believed also that the sewerage is affecting the springs in this region so that the water supply of many families is contaminated. I think no one in this region disputes the magnitude and objectionableness of the nuisance.

*Third.* What has been done. The city of Altoona was placed under indictment about a year ago for this nuisance in the court of common pleas of Blair county. The judge has twice adjourned the case from inability to decide what to compel the city of Altoona to do. At the last term of court in June, the case was not brought up, because, after consultation with the district attorney, it was deemed inadvisable to press the matter as yet. Meanwhile the councils of the city have not been entirely idle. They have committed the matter to the board of health and made an appropriation for the purpose, with a request to recommend to councils some suitable method of disposing of the sewerage of the city. The board of health committed the matter to your inspector to study, and make a report. As you know I have corresponded with you on the subject and have had a letter from Rudolph Hering, Esq., whom you directed to reply to me. I have also made an analysis of the sewage water of Altoona with reference to the effect of different purification schemes on it. I am not yet prepared to report to the board of health, and from them to the councils, but hope before the coming fall to be able to report a scheme to councils that will be feasible, for disposing of this sewage in a harmless way. Still farther, councils have authorized and the work will probably be commenced within the next two weeks to build a large closed sewer from the end of the present sewer to the city line. You will notice these two points on the map indicated by the crosses. This sewer built within the city limits will of course not serve the borough of Allegheny Furnace, but it shows the whole question is receiving attention. Furthermore, the Pennsylvania railroad in the city have taken a strong hand in the matter, and are doing their utmost to push this sewer and others to proper completion.

*Fourth.* What shall be done? In view of what already is being done as said above and in view of the state of the question, which I trust I have made clear to you, it is really difficult to make any recommendations that shall be tangible to act upon. I really cannot see how the State Board of Health can at the present moment do anything more than is being done. Two things suggest themselves to me. First, that the State Board of Health give us assistance in devising some tangible scheme for the disposal of the sewerage. We should be exceedingly glad to have any recommendations which the State Board of Health felt willing to make. Our problem is, a city situated near the sources of streams, with a deficient water supply, and a population of about 15,000, the sewerage of which drains in one direction, and about 15,000 whose sewerage drains in the other direction. What



shall be done with the sewerage? Our present leaning is towards a precipitation scheme, but we would be only too glad to adopt any scheme that is feasible for freeing both ourselves and our neighbors from this nuisance. Second, The stream which carries the sewerage from the city limits to the point where it becomes not objectionable as it is marked on the map, a distance of one mile, is a shallow stream with more or less pools in it. When there is plenty of water running the sewerage is carried off and there really is no serious nuisance. As soon as the water supply becomes scanty, each pool becomes in reality a cess-pool, and the sewerage runs between the pools in a very shallow stream, giving the most favorable conditions for decomposition, and giving off odors. We think it would be a mitigation of the evil to have a narrow deep channel provided along one side of the stream, for the sewerage to run in when the stream is low. This should be made in such a way as to have no pools, and to have everything run in a deep narrow channel. This is the only possible thing that we can think of as a mitigation and we had proposed to embody this as a preliminary recommendation in our report to the board of health and then to councils. We do not know whether it would be possible for the State Board of Health to do anything toward carrying out this last suggestion, but our recommendation would be for the State Board to wait until some tangible scheme is presented to the councils, and then put all the force of the State Board and the courts on councils to compel them to take action.

As said above we hope to recommend a tangible scheme within the next two months. If anything further is wanted should be very glad to receive a communication to that effect.

Very truly yours,

CHARLES B. DUDLEY,  
*Medical Inspector.*

---

#### VI. REPORT OF AN INSPECTION AT BRYN MAWR.

By WILLIAM B. ATKINSON, M. D., *Medical Inspector.*

DR. BENJAMIN LEE,

*Secretary and Executive Officer, etc.:*

DEAR SIR: In obedience to your instructions, I visited Bryn Mawr, April 29, and inspected a large pool of water on the premises of Joseph Stretch. It is an open cellar three feet in depth, which was dug in October last. The excavation is about 40x50 feet. It is kept full of water by rains, and the water constantly soaks through into the cellar next door of W. A. Maxwell. I examined this cellar and found it swampy and unhealthy by reason of the above.

I would urge that this excavation be filled up at once, as very liable to be a source of injury to the neighborhood.

Very respectfully,

W. B. ATKINSON,  
*Medical Inspector.*

---

VII. REPORTS OF TWO INSPECTIONS AT FERNWOOD, DELAWARE COUNTY.

By WILLIAM B. ATKINSON, M. D., *Medical Inspector.*

---

Dr. BENJAMIN LEE,

*Secretary and Executive Officer :*

DEAR SIR: In obedience to your instructions on May 2d, I visited Fernwood and inspected a privy well on the premises of Mr. Henderson. It is the ordinary vaulted well bricked to the level of the earth, with the seat about eighteen inches above. I found it was within three feet of the seat, filled with the ordinary contents. On the side next to Mr. Huhlings there is a drainage of the watery portions for about six inches from the wall. This is caused by the ground on that side being lower, and could readily be controlled by banking up the earth, or sodding this width. Although the day was not hot when I made my inspection, the well was not offensive, nor was the wet spot above mentioned.

Mr. Henderson expressed his intention to have the contents removed, but asked delay because he had just, when I called, received telegraphic notice of the death of a relative.

Yours respectfully,

WM. B. ATKINSON,  
*Medical Inspector.*

---

Dr. BENJAMIN LEE,

*Secretary and Executive Officer, State Board of Health :*

DEAR SIR: In examining the premises at Church street, Fernwood, Delaware county, I found the ground of the yard of No. 3, to be several inches lower than those next door, with a tendency to a descent in that direction. Immediately along side the privy well of Henderson the ground appeared to have been dug out a few inches, causing a puddle into which the water would drain.

The whole difficulty can be permanently remedied if the occupant of No. 3 will level his yard, and bank up with sod alongside the water closet of his neighbor.

Respectfully yours,

W. B. ATKINSON,  
*Medical Inspector.*

## VIII. REPORT OF AN INSPECTION AT LANSDOWNE.

---

By WILLIAM B. ATKINSON, M. D., *Medical Inspector.*

---

BENJAMIN LEE, M. D.,

*Secretary and Executive Officer, etc.:*

DEAR SIR: In obedience to your instructions, I visited Lansdowne, April 28, and inspected a swampy place on the premises of Mr. Charles Price, opposite the residence of Mr. J. H. Hall. It is in an open space about 250 feet from the door of Mr. Hall; is about thirty feet in diameter and two feet deep at the center. An effort has been made to drain it by digging a ditch for some distance, which has never been completed. This low place is surrounded by trees and bushes. There is no perceptible odor.

I would suggest that it be filled up with fresh earth, which can easily be done and will remove all cause of complaint.

Very respectfully,

W. B. ATKINSON,  
*Medical Inspector.*

## IX. REPORT OF AN INSPECTION AT NATRONA, ALLEGHENY COUNTY.

---

By L. H. HUNTER, *Inspector.*

---

BENJAMIN LEE, M. D.,

*Secretary State Board of Health:*

DEAR SIR: In pursuance to orders received, I visited Natrona, Allegheny county, and to my surprise found that there was no disease of any kind prevailing, other than a few scattering cases of measles. The complaint originated in this way. The employés of the Pennsylvania Salt Works located at this point have been on a strike, and the company brought in new men to take their places, erecting barracks within the enclosure for the men to sleep and eat in. It became rumored throughout the town that typhoid fever was prevailing among the men inside of the works to which no one was admitted except the officers of the company, and that they were concealing the true condition of affairs within. It seems that it then occurred to some of the citizens to call on the State Board of Health and have these mysterious gates thrown open. The superintendent of the works knowing that all was right inside, gladly admitted me and seemed anxious to have the public clamor settled in this way. I found the men's barracks large and airy, bedding new and clean, with ample room for twice the number of occupants. There was not a sick man among



them, although one of the men had been slightly indisposed, but was at work. There were no Hungarians among the men in the barracks: they were native born and Germans.

The company employ their own physician, Mr. H. M. Lincoln, of Natrona, who accompanied me through the works.

The man John Laffey, who landed in Philadelphia from steamer Langoff (Lord Gough), and was taken with small-pox in this city, as (report by Mr. Gray), died in the hospital here on Saturday last.

Very respectfully yours,

L. H. HUNTER,

*Inspector.*

---

#### X. REPORT OF AN INSPECTION AT CHARTIERS, ALLEGHENY COUNTY.

---

By L. H. HUNTER, *Inspector.*

---

BENJAMIN LEE, M. D.,

*Secretary State Board of Health:*

DEAR SIR: In compliance with orders of June 7, I visited and inspected nuisance complained of at the village of Chartiers, Allegheny county, and would respectfully report as follows.

I found two slaughter houses and a number of privy vaults in a filthy condition, also pig styes located on one of the principal streets of the village, producing a terrible stench, and one that, I am told, is causing sickness and depreciating the value of property on that street, and in my opinion constitutes a nuisance prejudicial to health. I would suggest as perhaps the best and least expensive way of abating said nuisances, that you sign and forward me ten blank orders allowing me to fill out as circumstances may require in each particular case. I think the orders would be complied with and the nuisances abated without further trouble.

Respectfully yours,

L. H. HUNTER,

*Inspector.*

## XI. REPORT OF AN INSPECTION AT TROY, BRADFORD COUNTY.

---

By E. D. PAYNE, M. D., *Medical Inspector.*

---

TOWANDA, PA., *June 20, 1887.*

BENJAMIN LEE, M. D.,

*Secretary State Board of Health, Philadelphia, Pa.:*

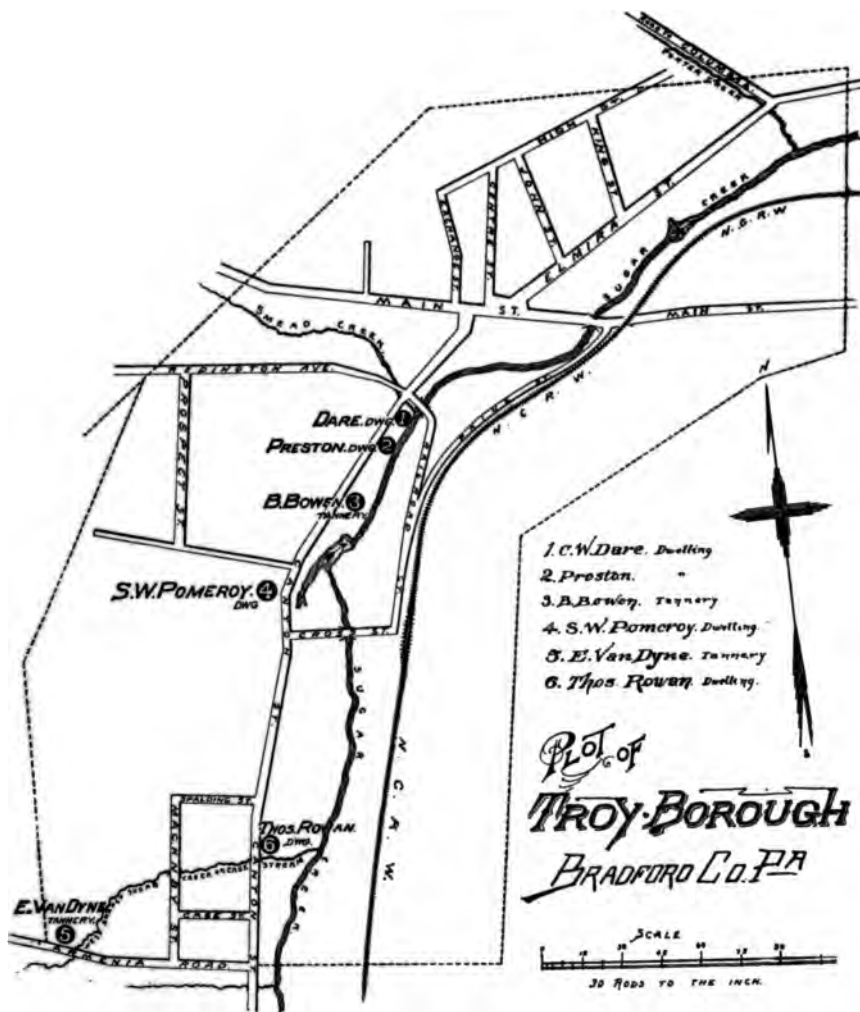
SIR: I have to report that, in obedience to your order of the 7th inst., I visited Troy, Bradford county, Pa., on the 16th, and inspected the sanitary conditions of the stream running through that borough. Troy is a beautiful town situated among the hills of western Bradford, on the line of the Northern Central railroad, about twenty-two miles from Towanda, the county seat, and containing from fourteen to sixteen hundred inhabitants. The soil is mostly of red clay with occasional gravel beds, and the underlying rock red shale. The water generally used by the inhabitants is derived from springs situated in the hills above the town and distributed through it in pipes. Through a depression between the hills runs Sugar creek, which finally finds its outlet in the Susquehanna about two miles north of Towanda. Near the southern limit of the borough it receives a small branch called West Branch, and near the center of the town there is a small pool, formed by a low dam for the benefit of the tannery of B. Bowen. The stream runs the entire length of the town more than a mile parallel with and in close proximity to Canton street and its virtual extension Elmira street. This section represents one of the most beautiful portions of the town, which is built on high ground rising from either bank of the stream. It is also not far distant from Main street and the center of population. Were it free from contamination, it would add beauty and charm to the place.

I enclose, herewith, a tracing from a map of the borough, published some years since, which will serve to assist in forming an opinion of the relative position of the stream to the town. It appears deficient in not showing quite a percentage of population on the right bank of the stream.

On the west side of the stream the bank rises to a general level of from eight to twelve or fifteen feet, and this rise varies a good deal in distance from the creek. Canton street is nearly on the level with this rise and the residences built on the opposite side of the street rise more or less abruptly with the hills.

The water course at the southern end of the town is scarcely more than a brooklet, and at the lower end, after receiving the waters of Smead creek, it is still only a small creek. During the summer months it is nearly dried up. I walked its entire length within the borough limits.

It would appear that the people instead of recognizing the desira-





bility of such a stream running through the town uncontaminated, have utilized it for common drainage and the deposit of filth and garbage; for I not only found such filth and garbage on its banks left to be washed away by high water, but house and privy drains emptying into it in numerous places, privy vaults built close on its banks through the center of the town, and in one instance, a stable so built that the dumpings from it were deposited immediately on the bank with no possible way of removal except to be washed away by the stream.

In some instances the drains did not open under or on the bank of the stream, but were found many feet from it and their contents left to find their way to it as best they might. This was notably so in case of the drain from the premises of S. W. Pomeroy (marked 4 on map). This consists of a large, fine residence, with ample grounds and it has suffered from diphtheria and death, believed to be the result of this drain. At the extreme southern end of the town is situated the tannery of E. Van Dyne (marked 5), the drainage from which is into the creek. A short distance from there is the residence of Thomas Ronan (marked 6), which has been sickly since the existence of the tannery. A careful inspection of his house, cellar and premises fails to find a cause for the sickness, while a poor attempt to prevent fleshings from the tannery running into the creek is a more apparent and likely one. Both Mr. and Mrs. Ronan stated that they were obliged to keep their doors and windows closed a large part of the time on account of the stench from the creek. On the opposite side of the creek, farther down but not marked on the map, is a creamery which has a large drain opening into it. At the tannery of B. Bowen (marked 3), a careful attempt to prevent fleshings from getting into the creek is apparent, yet not entirely successful. Dare dwelling (marked 1), Preston (marked 2), are notable instances of filthy private drains and near the same point, not marked on map, is the opening of a large sewerage from the principal hotel and some business blocks.

It would scarcely be expected that such conditions could exist in the heart of the town and sickness not be generated from them, especially when during the hot months the stream becomes nearly dry and the drains continue to discharge their contents. This opinion was insisted on by a few, admitted in a general way by others and denied by still others. Private interests may not relish the expense of any change and public interests insist that the town is healthy.

In view of the above facts derived from personal observation and hearsay, in my opinion the present condition of Sugar creek, as it runs through Troy, Bradford county Pa., constitutes a nuisance prejudicial to the health of the inhabitants, and the conditions which contaminate said creek within the borough limits should be abated.

I would recommend that a sewer-pipe of sufficient capacity be laid upon the same general level as the creek, or below it, and that all



persons now having drains opening into or near the creek, and all persons who may hereafter so lay them, be required to connect them with said main pipe; that the tanneries be required to do the same; that the said main pipe be laid to a point beyond the borough limits and there empty into the creek, and that it be so constructed that it can, by its close proximity to the creek, be flooded by it as occasion requires. I also recommend that all persons be enjoined from depositing filth, garbage, offal, carrion and other offensive substances in or near the creek.

The question of how to abate or remedy such a condition of affairs as I have reported, is a serious one. The natural drainage is towards the creek from the whole town, and every one naturally seeks the readiest and least expensive way to accomplish the object. The work of sewerage is one few towns like to assume on account of its expense, even if the costs do not exceed that limit of indebtedness which the law provides; yet I doubt if it would exceed the aggregate of individual cess-wells. On some premises, undoubtedly, cess wells could be safely constructed, but the nature of the ground would prohibit it on many. I also object to cess-wells in general as a hidden source of danger.

Earth closets also have their disadvantages. If properly guarded and attended to they are safe, but if neglected they become a nuisance, and it seems to me that the tax of so guarding them as to make them safe is equal to that for sewerage.

Very respectfully, &c.,

E. D. PAYNE,  
*Medical Inspector.*

---

## XII. REPORT OF AN INSPECTION AT SHENANDOAH, SCHUYLKILL COUNTY.

---

By D. J. McKIBBIN, M. D., *Medical Inspector.*

---

ASHLAND, PA., *March 9, 1887.*

Dr. BENJAMIN LEE,

*Secretary State Board of Health:*

DEAR SIR: In pursuance of order to proceed at once to Shenandoah, and in view of the urgency of yours of the 7th, I visited that point last evening, and while unable then to make an inspection of the condition of the streets, alleys, &c., I employed my time in interviews with some of the more prominent citizens and physicians, and find the published statement a grossly exaggerated one—but three (3) cases of scarlatina

simplex and simple uncomplicated measles to the amount now under medical treatment of forty cases, constitute the whole number of contagious diseases. No small-pox or typhoid fever prevail.

Measles first made their appearance in the valley in the early part of February, some four or five miles east of Shenandoah, and as the mining villages thence to Shenandoah are contiguous, the disease in a mild and uncomplicated form gradually extended to the city, so that possibly the newspaper correspondent may have estimated the gross number of cases which have prevailed in these various mining villages, in a population not far from 25,000 souls.

I found the superintendent of public schools as well as the directors on the alert. No child being admitted to school from a family in which measles exists or is suspected to exist. Disinfectants will now be liberally used about the basements and cesspools of the school buildings. Much surprise and indignation is expressed at the reckless disregard of truth in the published statements.

In a day or two I will interview the burgess, who was only inducted into office on the night of March 7, and make a thorough visitation of Shenandoah and vicinity. I wrote you this early that your Board may be relieved of natural apprehension regarding the prevalence of an epidemic which should, in my opinion, read 'in the Shenandoah Valley' and not Shenandoah City alone.

Awaiting further orders as you may designate,

I am very respectfully, &c.,

D. J. McKIBBIN.

#### Report.

Shenandoah City, in the county of Schuylkill, a borough containing about 13,000 inhabitants, is handsomely located on a bluff or rather promontory jutting out from the mountain side, looking south, into the Shenandoah Valley, and almost surrounded at its base by the Shenandoah creek, a stream now nearly obliterated by culm from the mines. The slopes on the east and west gradually descend to the base, while the southern one terminates abruptly in a mass of conglomerate boulders, familiarly known to the citizens as "The Rocks," on which almost impassable location frame tenements have been erected, chiefly filled with Hungarians, whose habits of life are devoid of all ideas of cleanliness.

The town is admirably located for surface drainage, on which it absolutely relies, as no sewers or sub-soil drainage exists, save a few terra cotta pipes, varying in diameter from four to twelve inches, owned and laid by private individuals, from the main or central parts of the town.

There is an abundant supply of pure spring water from a reservoir constructed high upon the mountain side. No pump or well water, so far as I can learn, is now used.

The cesspools, varying from four to eight feet in depth, are generally in a poor and filthy condition, and from information and appearance I judge but seldom cleansed. The same pool frequently used by a number of families.

At the present season of the year, while the more prominent streets are in a fair condition, the by-streets and alley ways, especially in the First and Fifth wards, abound in manure heaps, kitchen offal, ash-piles, mud and other débris, making a mass of filth difficult to describe.

Measles in a simple and uncomplicated form is now the prevalent disease and this to a very limited extent. All sensational stories to the contrary are unfounded. From the reports of physicians and reputable citizens, what seems almost incredible, no zymotic diseases exist, even in those wards which most require efficient policing.

I have recommended to the burgess and some of the council, whom I chanced to meet, that council exact from the constable of each ward, a regular monthly report of the sanitary condition of his ward and thereby facilitate immediate action by the sanitary committee.

Respectfully submitted.

D. J. McKIBBIN,  
*Medical Inspector.*

---

### XIII. REPORT OF AN INSPECTION OF GUNNER'S RUN, PHILADELPHIA.

---

By WILLIAM B. ATKINSON, M. D., *Medical Inspector.*

---

BENJ. LEE, M. D.,

*Secretary and Executive Officer, State Board of Health :*

In response to your instructions I have spent some time in a careful examination of Gunner's run and its relations to the neighborhood through which it passes. It is one of several small streams in the north-eastern portion of Philadelphia, which connect Frankford creek with the Delaware river. It empties into the Delaware river just above the Kensington water works. Along its banks, which are low and muddy, are numerous manufactories, dye-houses and the like, all of which pour their refuse and débris into its waters or upon its banks. Hence as we pass along we find that the waters are of green, blue or black hue, and quantities of refuse matters usual to dye-houses, etc., are lying upon its banks and are being washed into the run by the rains. It is of sufficient width to require quite large bridges over it, especially at Lehigh avenue, Somerset street and several other places. As its waters are not expected to be used for potable purposes in any



way, the only evil effect of such a condition of this stream is its power to act as a polluter of the air of its vicinity. Of such results I have failed to find any knowledge either among the citizens or physicians who may live or practice medicine in its locality. By its open condition it constantly invites the deposit of refuse matters of all kinds, and recently, I learned that it had been used as a place to dump excavations from privies.

I particularly examined as to the relation it bore to the pumping-house of the Kensington water works. On visiting this place, the engineer very courteously gave me all the information that I desired upon the subject.

A pipe extends out into the Delaware river 300 feet, and at its outer end is placed at a depth of 33 feet; from this point the water is drawn which is used to supply these works.

In addition to this, I found that by means of a sluice under the wharf of these works the water from Gunner's run is caused to pass so that it cannot wash out and mingle with that of the current, and thus it is believed that no possibility exists by which the water drawn into the pipe can in any way be contaminated.

Under present circumstances while the run must always be an unsightly and noisome affair, yet it only acts as an open sewer for a sparsely inhabited portion of the city. In time, should building operations become more active and the ground along the stream become valuable for building purposes, it may require the confining of the water within narrower limits or its complete enclosure by the building of a large conduit that it may perform the work of a closed sewer.

All of which is respectfully submitted.

WM. B. ATKINSON, M. D.,  
*Medical Inspector.*

---

#### XIV. REPORT OF AN INSPECTION OF THE EXECUTIVE MANSION AT HARRISBURG.

By BENJAMIN LEE, M. D., *Secretary.*

COMMONWEALTH OF PENNSYLVANIA,  
STATE BOARD OF HEALTH,  
EXECUTIVE OFFICE, 1532 PINE STREET,  
PHILADELPHIA, *February 5, 1887.*

TO EDWARD WILLIAM GERMER, M. D.,  
*President of the State Board of Health:*

SIR: I have the honor to submit the following report of a sanitary inspection of the Executive Mansion at Harrisburg.

Yours respectfully,

BENJ. LEE, *Secretary.*

## Report.

On the fourth day of February, 1887, I made a careful sanitary inspection of the Executive Mansion at Harrisburg. I was assisted in my investigation by Mr. James G. Bryan, a skilful, practical plumber of Philadelphia, on whose judgment I place great confidence; by Dr. Hugh Hamilton, chairman of the sanitary committee of the Dauphin County Medical Society; by Mr. Neil, the plumber who has done the recent plumbing work in the mansion, and by Capt Stackpole, Superintendent of Public Grounds and Buildings, who courteously afforded me every opportunity for making the examination.

The appliances in the third story front bath room and water-closet, where the inspection was begun, were found to be modern in style, of the best quality and superior workmanship, downward ventilation of the seat being secured by carrying a vent pipe into a chimney flue and running it up all the way to the top inside the flue. Holes in the ceiling of this room, which had been papered over, indicated that at one time this closet had been a source of serious annoyance to the occupants and undoubtedly a cause of disease. A water closet adjoining this one, I was unable to examine, owing to the fact that the doors of the chamber to which it was attached were locked and in the absence of the family, the keys could not be found; but I was assured by Mr. Neil that the appliances and work were identical with those in the front room. The soil stack from these rooms runs up its full diameter through the loft to a point several feet above the peak of the roof. The cowl was removed from the top of this stack and oil of peppermint poured down it, the assistant who performed this duty remaining on the roof until the inspection was completed in order that he might bring no odor of peppermint into the house and so vitiate the test. The next point examined was the bath-room on the second floor of the back building. Here the soil pipe was found to be carried up through the roof of the back building and thence along the top of the roof to the wall of the main building, thence up this wall outside, to terminate just below the eaves. In the bed-room in the third story over the bath-room was found a stationary wash stand, the waste pipe of which was extended up outside the wall and likewise terminated below the eaves near the soil pipe just referred to. The open mouths of both of these pipes are in close proximity to windows on the same story, and beneath windows on the story above. It is scarcely necessary to point out with what ease the foul exhalations from them could enter these windows when opened for purposes of ventilation. If the nearest window were let down from the top during the night as is often done, with the wind in a favoring quarter, these exhalations would, to a considerable extent, take the place of the fresh air which the unsuspecting occupant of the room supposed himself to be getting. The situation here is closely analagous to that at



the reform school at Morganza, where I found an epidemic of filth fever prevailing, which I could trace to no other cause than the rain spouts which entered the sewer untrapped and opened in the gutters of the roof close to the windows of the dormitory in which all the cases attacked had slept. As an evidence that this danger is not imaginery, in the case under consideration, I may say that the odor of peppermint was discernible on opening the windows referred to. The only way in which it could have reached them was by descending the sewer through the front soil stack, down which it was poured, finding its way up the sewer, and ascending the rear soil stack.

The waste pipe of the kitchen sink was found to run into a four-inch trap directly under the floor, and thence by a four-inch pipe into the sewer. This large trap is objectionable as furnishing a receptacle in which vegetable and animal matter may collect and decay.

The sewer referred to is the private drain of the house. It consists, according to Mr. Neil, of a ten-inch brick sewer, running from the stables in the rear of the lot, much of the drainage of which it receives, through the yard directly under the main building and so out across the street to the river, where it discharges. Its entire length is upwards of three hundred feet. Lateral branches admit the soil pipes, surface drainage, hydrant waste and rain conductors, the latter all said to be untrapped. The soil pipes were in good condition in the cellar, which was scrupulously clean. But the floor was simply earth, a loose loam, damp all over, but especially so in places. Should leakage take place from the brick drain referred to, the resulting gases would find no difficulty in working their way up and poisoning the air of the cellar and so that of the house. The outer end of this drain was cut by Mr. Neil two years ago, a ten-inch running trap placed on it just outside the curb, with a four-inch air-inlet pipe protected by an iron grating inside the curb, and an iron pipe extended to the river.

Scientific drainage no longer permits a brick drain to be carried underneath a dwelling. The irregularities of the bottom form frequent receptacles for the lodgement of decomposing matter, and they are liable to leakage and to perforation by rats. At the recent annual conference of State Boards of Health, at Toronto, in which this Board was represented, the delegation from Indiana submitted the question, whether it was allowable to run such a drain under the Capitol Building of that State, which was not to be used as a dwelling at all. The conference was unanimous in condemning the project. I am therefore led to condemn this sewer most unqualifiedly and to make the following *suggestions* for improving the *sanitary condition of the Executive Mansion*.

*First.* The brick sewer should be torn out and replaced by a No. 1 terra cotta, vitrified pipe, carefully laid in Portland cement, each joint wiped smooth and each lateral branch connected with a Y branch.

*Second.* All the rain conductors should be trapped below the frost line.

*Third.* All the surface outlets should be trapped below the frost line and covered with cess pools.

*Fourth.* The rear end of the drain pipe should be ventilated by a stack of four inch soil pipe in the coach house, extended well above the roof.

*Fifth.* The soil pipe of the second story bath room should pierce the rear wall of the house and be extended upward inside the wall to the attic and thence out at the ridge, to a sufficient height above the roof of the main building.

*Sixth.* The waste pipe of the stationary basin in the third story should be similarly carried up inside the wall and made to terminate above the ridge of the main roof.

*Seventh.* Two two-inch lead anti-syphoning pipes should lead from outside the seats of the two water closets' traps attached to the front soil pipe, and should connect with the soil pipe above all traps or outlets.

*Eighth.* The four-inch trap of the kitchen sink, underneath the floor, should be replaced by a two-inch trap immediately beneath the sink.

*Ninth.* The rear rain conductor should be removed from the servants' water closet in the yard, and the pipe capped. This conductor should then be connected, properly trapped, with the drain directly back of the kitchen.

*Tenth.* A two-inch seat vent should be run from the servants' water closet to the kitchen smoke flue.

*Eleventh.* The cellar floor should be well laid with cement.

*Twelfth.* This work should not be given to the lowest bidder, if there is any possible way in which this ingenious device for obtaining the poorest possible return for the outlay of the people's money can be avoided. The health of the Governor of this Commonwealth and that of his family are too valuable to be trifled with by sham ventilators and scamped plumbing. The repairs should be entrusted to a respectable and competent plumber, whose instructions should be to use the most expensive material and do the work in the most approved manner, without limitation as to cost, and for such material and such work he should be fairly and fully paid. This must not be construed as reflecting in any way upon the plumber recently employed on the mansion, whose work was well done, of good material and, under the restrictions to which he was subjected, scientifically designed.

Having completed the inspection of the gubernatorial residence, I, under the guidance of Dr. Hamilton, extended my investigation to the adjacent neighborhood. This convinced me that the natural drainage of this part of the city is away from and not towards the

river, that this natural drainage has been seriously interfered with by filling in with city dirt; that in consequence a considerable section immediately in the rear of the Executive Mansion is more or less saturated with moisture, which once found its way unrestrained into natural outlets. This region, covered with houses, many of them of the poorest possible character, Dr. Hamilton assures me has been for years back a breeding place of diphtheria and allied diseases. This being the case, the question naturally forces itself upon the mind, whether the dignity of the Commonwealth and the interests of true economy would not be better subserved in erecting a new Executive Mansion than in attempting to patch up a building confessedly of poor construction, a makeshift not originally erected for the purpose, in which two deaths and frequent illnesses have occurred under circumstances leading to the suspicion of insanitary conditions, which has twice recently narrowly escaped destruction by fire, in consequence of defective architecture, and which is notoriously uncomfortable and inadequate in its domestic arrangements, and unfortunate in its immediate environment from a sanitary standpoint.

All of which is respectfully submitted.

BENJAMIN LEE,  
*Secretary.*

---

#### XV. REPORT OF AN INSPECTION AT DERRY, WESTMORELAND COUNTY.

By L. H. HUNTER, *Inspector.*

PITTSBURGH, *March 5, 1887.*

BENJAMIN LEE, M. D.,

*Secretary State Board of Health :*

DEAR SIR: In pursuance of your order of February 21, directing me to visit and make an inspection of the sanitary condition of the town of Derry, Westmoreland county, Pa., I beg leave to report as follows:

The town of Derry, situated at the base of Chestnut Ridge, forty-six miles east of Pittsburgh, containing a population of about 1,500 inhabitants and covering an area of from one-fourth to one-half mile, is built on a drift.

This drift is about eighteen feet in depth and is composed of sand and gravel, the strata run-sand and gravel six feet, blue clay and gravel six feet, dark muck six feet, ending with slate. Mellon's Run passes through the town from a break in the ridge. Privy vaults are extremely shallow and in the upper part of the town are generally above the wells on ground sloping toward the wells: these vaults are



in bad condition, most of them are full and some of them running over. Privy vaults are not cleaned, the custom is to cover them up when full and build or dig new holes along side of the old ones. Many yards are honeycombed with these old vaults.

Seventeen samples of well water taken from parts of the town where fever and diphtheria were prevalent, tested by Nessler's test, by W. Snively, M. D., registrar of Pittsburgh board of health, are as follows:

No. 1. William Fisher; very bad. Five cases of typhoid fever; first case November 1, 1886. One case at the present time. All used of well No. 1 but the last case. Distance of vault from well, fifty-seven feet. Surface water evidently runs into well. Box drain from kitchen, five feet from well. Pile of ashes and garbage, seven feet from well. Cases occurred since November 1, 1886.

No. 2. Rev. D. R. McCaslin; bad. Well sixty feet from vault, located in a basin.

No. 3. George Fisher; bad. Distance from well to vault, seventy-two feet. Waste water thrown out in yard around well.

No. 4. Peter Martin; good. Well twenty-two feet, vault fifty-five feet from well.

No. 5. Fisher House; bad. Depth of well sixteen feet from surface, eight feet nine inches of water. Several cases of fever, first case June, 1885. Well under porch, vault forty-six feet from well and full. Sewer pipe from well to vault.

No. 6. Kinler House; bad. Spring in cellar vault on old run, eighty feet from house.

No. 7. Mrs. Kestner (Union House); excessively bad. Well twenty feet, 17 feet of water, vault sixty feet from well. Four cases of fever beginning from about December 1, 1886. Vault full flush with the seat, ground around the house in bad condition. Manure heaps and garbage strewn all over the yard and around the well. Alley in rear of this house in filthy condition from garbage, manure, &c.

No. 8. Beltz's brick house; bad. Well to vault, seventy-five feet; several old vaults covered up much nearer to well. Well just at end of porch. Mass of filth and garbage thrown around well. Kitchen slops evidently find their way into well. Premises in a generally filthy condition.

No. 9. Austin Shaffer; good. Well cased and cemented, fifty feet from vault.

No. 10. Mr. — Barnhart; good. No vault on premises. Well fifteen feet, water within three feet of surface.

No. 11. A. Cameron; good. Well eighteen feet, with cemented tile from bottom; good.

No. 12. M. D. Otts; bad. Well lined with tile.

Numbers 13, 14, 15, 16 and 17, surroundings not taken.

No. 13. G. M. Thomas; bad.

No. 14. Joseph Piper; bad.

No. 15. Joseph Piper (tile in well); bad.

No. 16. J. C. Cambell (No. 1); good.

No. 17. J. C. Cambell (No. 2), cottage; bad.

Typhoid fever and other zymotic diseases have been unusually prevalent for the last two years in the borough of Derry, there having been sixty-eight cases of the former, with a decided increase during the last few weeks. There is no sewer drainage in the town. A public meeting was held in the evening of the day (March 2) at which Health Officer Crosby Gray, of Pittsburgh, and myself reported matters as we view them. Action was taken looking to the erection of water works and organization of local board of health. In my opinion the defective conditions will be remedied by local authorities, without further aid from State Board of Health.

I have the honor to be,

Respectfully yours,

L. H. HUNTER.

---

#### XVI. REPORT OF AN INSPECTION AT GENERAL WAYNE.

---

By BENJAMIN LEE, M. D., *Secretary*.

---

EXECUTIVE OFFICE,  
1532 PINE STREET,  
PHILADELPHIA, *December 9, 1886.*

Dr. G. E. ABBOT:

DEAR DOCTOR: At your request I made an investigation into the sanitary condition of a private residence at General Wayne, on Monday, December 6. The reason of your desiring the examination I understood to be the fact that two cases of infectious disease had occurred in the house which could not be traced to any external source.

Such a circumstance, in my mind, fully warranted the suspicion of some lurking cause of disease about the premises, and justified the application for an inspection. The following are the conditions which I noted: The plumbing work in the second story appeared to be of good quality and sound construction; no offensive odor could be detected in the bath room; the kitchen sink was reported to be offensive at times; the bell trap with which it is provided is not as efficient as some other forms; the cellar floor was found to be very damp in certain places. When this was the case the cement was easily broken through and the ground beneath was found to be damp and soggy, showing that it had been wet for a long time. This condition Mrs. ——— explained by saying that some time since the leader from the roofs of this and the next houses which opened into soil pipe of the



water-closet in the yard of this house had become disconnected, and in consequence the cellars of both houses had been flooded, the water standing one or more inches deep on the floors for considerable periods. An examination of this leader induced me to think that this disconnection might have produced a soaking into the surrounding ground, not of rainwater alone, but of water closet sewage mixed with it. The water appeared to enter the cellar both through and underneath the walls. If this supposition is correct, then all the earth at the back of the house and under the rear half of the cellar is saturated with filth and must maintain an unhealthy condition of the air of the house. I found the lower part of the main soil pipe covered to the depth of a foot with coal. This having been shoveled away disclosed a joint, the cement of which was completely rotten and porous, allowing the sewer air to escape directly into the cellar. I could, with the greatest ease, thrust a considerable sized stick down into this pipe. I should think the material used in "calking" this joint to have been mud mortar, such as is often used in laying the foundations of houses. The last case of illness, which I understood to have been a fatal case of diphtheria, I should attribute to this cause directly, with the generally impure condition of the cellar air as a predisposing cause. All the joints of this pipe should of course be carefully examined and made safe.

To relieve the condition of saturation radical measures must be resorted to. All the damp, foul earth behind and underneath the house should be excavated and removed. The exposed earth should then be covered several inches with lime. This should be allowed to remain several days and then removed. The space should then be filled with clean dry earth, and the cellar floor should be covered with a thick layer of cement, much thicker than the mere glaze which now covers it. These operations would restore the house to its originally good sanitary condition.

Yours, very truly,

BENJAMIN LEE, M. D.,  
*Secretary State Board of Health.*

---

#### XVII. REPORT OF AN INSPECTION AT TARENTUM.

By L. H. HUNTER, *Medical Inspector.*

PITTSBURGH, *January 28, 1887.*

BENJAMIN LEE, M. D.,

*Secretary State Board of Health :*

DEAR SIR : In compliance with orders received I visited Tarentum on the 27th, and investigated, so far as I was able, the cause and origin of the fever at that place.

Found the citizens considerably excited, interviewed a number of the most prominent physicians and took a tour of the town.

From the best data I could get there are thirty-nine cases of malarial and typhoid fever in the town. Of this number thirteen are in Ford's row, or what is known as the Belgian quarters, including one new case and a probably fatal case, that of a woman said to be dying by the doctor. The most of the cases in the town proper are convalescent. Some of the physicians are very apprehensive of a spread of the disease, while others say it is decidedly on the decline. Councils organized a local board of health and adopted the model ordinance of State Board, and are disinfecting the more dangerous places. There has been more or less malarial and typhoid fever from about the 9th of August last in Tarentum with a decided increase from the 1st of January of this year.

In my estimation it is at about a stand still and unless it should spread from the Belgian row or Schuster's corner will gradually die out. The greater portion of the town lies low and is badly drained with numerous stagnant pools through the town. There is little or no sewerage as yet in this place.

Most respectfully yours,

L. H. HUNTER.

---

#### **XVIII. REPORT ON THE SANITARY CONDITION OF THE COUNTY JAIL AT CARLISLE, PA.**

---

By R. LOWRY SIBBET, M. D., of Carlisle, Pa.

---

In compliance with your order of the 10th inst., I proceeded to the Cumberland county jail, and, with the assistance of the deputy sheriff, made the necessary inspection and measurements for a report. Since your visit to this jail in relation to drainage, and since I made a report to the commissioners of the county one year ago, a copy of which was sent to you, certain improvements have been made which I should mention, though they have not all been of much advantage. An odorless excavator was purchased by the commissioners, and was used, but the pits or wells are now as full as they were when complaints were made. Pine floors were laid upon the old floors of some of the cells, which has made an excellent harbor for rats and mice, and when the floor is scrubbed the water running through will cause the under floor to rot, which may give rise to sickness. Nine of the cells upstairs have been made more secure by lining the ends of them with boiler iron. And finally a new steam generator has been placed in the basement story, and some new steam and drainage pipes have been inserted instead of the old ones.



The Cumberland county jail is conveniently located on the corner of Main and Bedford streets, in the borough of Carlisle. Its position is the best, the sun shining upon the front and the two sides. There are those who would place it outside the borough limits, but the expense of an entire new building and the necessity of keeping a van for the conveyance of the prisoners to and from the court-house, and the inconvenience of such a change, should not be overlooked. The drainage of such an institution in Carlisle presents no difficulties; besides, there are hotels in the borough which will soon, no doubt, be declared nuisances on account of a want of drainage, and both might be drained in the same way.

As intimated, the main building, in which the sheriff resides, is a handsome and well-built structure, and the walls around the lot of ground are twenty feet high and very substantial. The cellars and kitchens are in good condition. The only part of the jail that is defective is the building in which the prisoners are kept. It is attached to the north side of the front building and gives the jail the shape of the letter T. Its walls are built of rough, unhewn stone, through which several times prisoners have dug their way out. The basement story contains the steam generator, coal and wood. It is a great harbor for rats, which ascend to the cells above by making use of the water and steam pipes. The floor of the next story rests upon arches, and above there are two rows of cells on each side. This story is eighty-five feet long and fifty feet broad inside the walls, and twenty feet high to the square. The corridor or hall extends the whole length of the building, is seventeen feet broad and twenty-two feet high to the middle of the arch, which would give the hall a capacity of 31,790 cubic feet. There are eight cells below on each side and nine cells above on each side, which are reached by a balustrade, making in all thirty-four cells; the upper cells are a little larger than the lower cells, but they are all eight feet broad. Their average length is fourteen feet and their average height is a little less than ten feet, which gives to each a capacity of 1,120 cubic feet, and an aggregate capacity of 38,080 cubic feet. This would allow of 69,870 cubic feet of atmosphere in the building. When I succeeded Dr. Riley as physician to the jail, January 1, 1884, there were about 300 prisoners in the jail, which would give 239 cubic feet of space to each one when permitted to run loose in the hall; but when they were all crowded into the cells at night, each one had an average of 123 cubic feet of space. There were often, however, ten persons crowded into one at night, which gave 112 cubic feet of space to each one. Under the present sheriff there has been no necessity to crowd the so-called court-prisoners into a few cells above, although there are usually about thirty five or forty court prisoners in these eighteen cells. There are sometimes three in a cell. At present there are about 100 vagrants in the cells below; in the month of January and February there were about 150, and there will possibly be this

number in the coming months. The court prisoners complain that they do not get out of their cells for a whole month. This is true; but it is done to keep order in the jail. There is but one small wash-room in this building, and one bath-tub. The warm water comes from the range in one of the kitchens, and some of the court prisoners complain that they cannot get to the bath-room to wash their clothes once in a month.

The ventilation of this building is very imperfect. There are ten small openings in the arched roof, and each one has a frame which turns in the center, fifteen by six inches, with a pane of glass in it. Each cell has a small opening in it near the ceiling, nineteen by five inches, in which is hung by hinges a small frame in which there is a pane of glass. Under the arch at the north end of the corridor there is a semi-circular window whose radius is two and a half feet, which may also be opened if the prisoners prefer. Besides, there is a grated door at the north end of the corridor or hall, through which atmosphere may come during the day and in warm weather. At night and in the winter the blind-door is closed upon it, so that the atmosphere of the building is often extremely foul.

The illumination of the building is also very imperfect, as the light reaches the prisoners by the same means.

The heating of the building is now much better than formerly, but it is very irregular. It is left in the care of unskilful persons. There is no thermometer kept in this building.

Until recently the court prisoners slept upon straw beds on the floor; now they have all got wooden cots. The bedding is very cheap, and is often very dirty. The vagrants sleep on the floor. The court prisoners get a pair of cheap shoes, a pair of cheap trousers, and a cheap blouse at the end of their service.

At present the food is cheap but good.

Disinfectants are used, and lime to whitewash the cells and corridors.

The drainage is carried into pits in the jail-yard, all of which are now as full as they can get—that is, eighteen inches from the surface of the ground—as they communicate with a deep well outside the jail-yard. The pits have not been emptied since the month of March last.

We need only say that the drainage of the jail is a very simple matter. In connection with the borough authorities the commissioners of the county could make permanent and very valuable improvement at moderate expense.

All of which is respectfully submitted,

R. LOWRY SIBBET, M. D.,  
*Medical Inspector.*

*December 22, 1886.*



## XIX. REPORT OF AN INSPECTION AT COVINGTON, TIOGA COUNTY.

By E. D. PAYNE, *Medical Inspector.*TOWANDA, PA., *July 20, 1887.*

BENJAMIN LEE, M. D.,

*Secretary State Board of Health:*

SIR: In obedience to your order of the 8th inst., I proceeded to Covington, Tioga county, Pa., and inspected two slaughter houses within the limits of the borough on the 16th inst. The extreme heat prevented my going at an earlier date. Your order includes "slaughter-houses, cess-pools, etc." I found no cess-pools and nothing to come under the general term "etc." Covington is a small town situated near the center of the eastern half of Tioga county, on the Tioga Branch of the Erie railroad.

It is nearly quadrangular in shape, and the Tioga river runs almost directly through the center from south to north. The river is a small stream at this place, scarcely larger than a good-sized creek. Near the center of the southern end of the borough, two small runs empty into it and between these runs, on their banks, are situated two small slaughter houses. It is plain to be seen that they are thus placed that the runs may constitute drainage for them to the river.

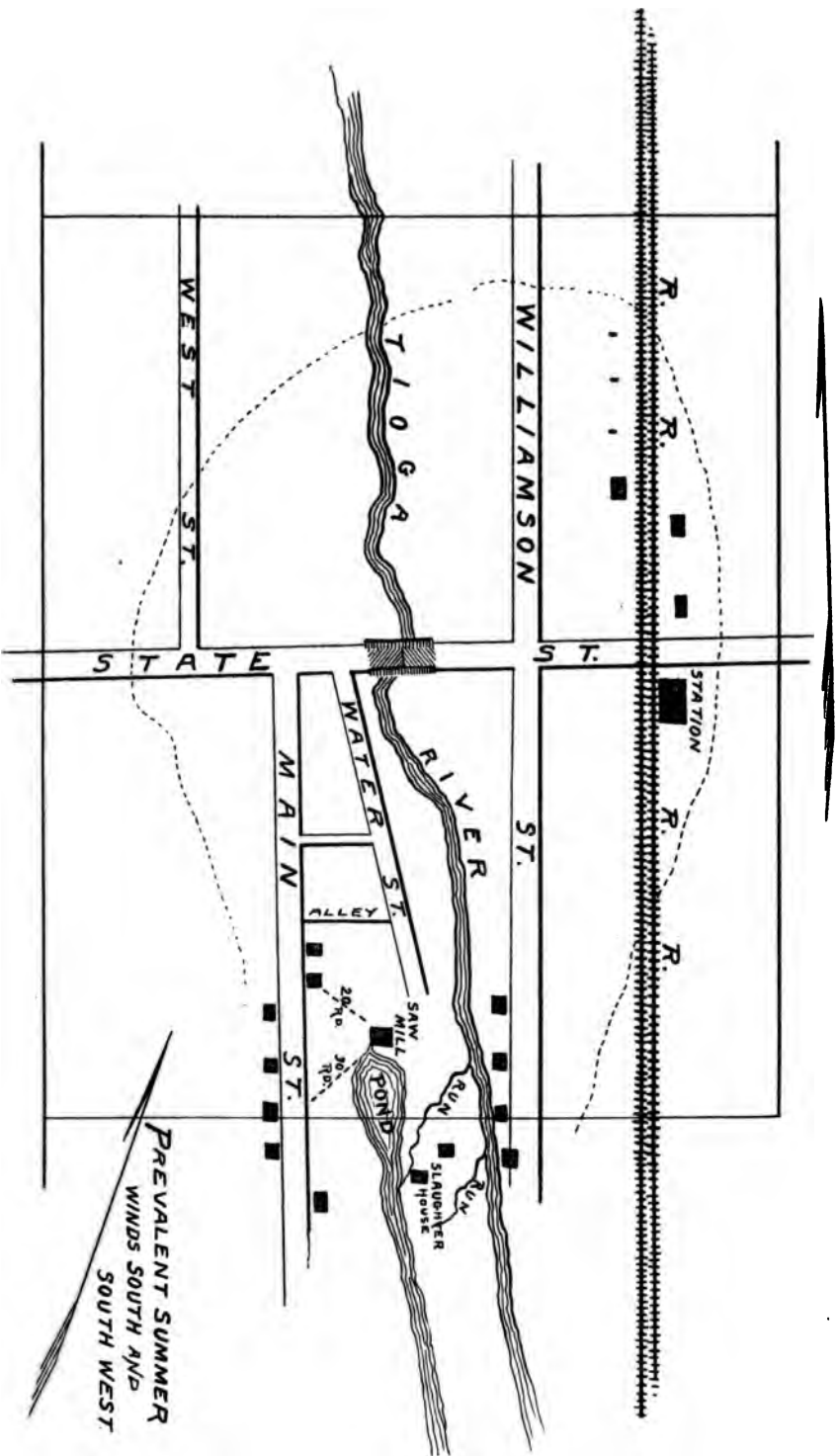
There are from ten to twelve head of cattle slaughtered in each during each week, and as many more of small stock. They are not for the convenience or necessities of Covington, but the meat is mostly peddled through the mining towns lower down.

They are filthy beyond description and no apparent effort is made for purification or cleanliness. A hog pen is attached to each, but the hogs fail to prove themselves good scavengers; for I found offal, dung, blood-pools, etc., in large and sickening amounts, and maggots by the pailful. The stench was simply unbearable. I was informed the slaughter-houses are used by John Ridge, of Blossburg, and S. Ridge, John Kendrick and G. S. Marvin, of Covington.

The prevalent winds are from the south and south-west, and the river runs to the northward. It will thus be seen the houses are situated at the very point to make them most objectionable. I asked Mr. S. D. Forrest to make me a rough drawing of the situation, which I append to this report, while it is not accurate as to scale and proportions, it is a very fair representation. A number of houses marked on the southern end are from twenty to forty rods from the slaughter houses. The occupants are obliged to keep their doors and windows shut to keep out the objectionable stench.

Circular from the State Board of Health of November 1, 1885, pronounces such places nuisances, but, independently of that, I do





Plot of Covington, Tloga County.



not hesitate to pronounce the slaughter houses of Covington, Tioga county, Pa., in my opinion nuisances which should be abated.

I recommend their entire destruction, the collection and deep burial of all the offensive surroundings, and a sufficient distribution upon the objectionable premises of chloride of lime to thoroughly deoderize the place, and this to be repeated each week until September 15th, I also recommend that you send to Mr. S. D. Forest, clerk to the borough council, two copies of provisional regulations (R. 2), dated November 1, 1885, with directions to place one on the files of the borough proceedings and the other to be placed in the hands of the burgess, and that the said regulations be read at the first meeting of the council after its receipt.

Yours, very respectfully,

E. D. PAYNE, M. D.,  
*Medical Inspector.*



---

## APPENDIX C.

---

### ANNUAL REPORTS OF CITIES AND TOWNS.

---

1. Annual Report of the Health officer of Erie—E. W. Germer, M. D.
  2. Annual Report of the Health Officer of Corry—C. B. Kibler, M. D.
  3. Annual Report of the Health Officer of Scranton—John O'Malley, M. D.
  4. Mortuary Tables—W. B. Atkinson, M. D., Philadelphia.
  5. Annual Report of the Board of Health of Reading—M. A. Rhoads, M. D.
- 

#### I. ANNUAL REPORT OF THE HEALTH OFFICER OF ERIE.

---

##### *To the State Board of Health:*

I have the honor to present herewith my report of the deaths in the city of Erie during the year 1886.

Total deaths, 569; sex—males, 295; females, 274; under 5 years of age, 237.

##### Monthly Deaths in 1886.

Deaths in January, 41; February, 44; March, 41; April, 52; May, 52; June, 32; July, 50; August, 54; September, 33; October, 64; November, 48; December, 58; total, 569.

##### Deaths in the Different Wards of Erie.

First ward, 118; Second ward, 126; Third ward, 102; Fourth ward, 107; Fifth ward, 48; Sixth ward, 68—total, 569.

##### Nativity.

Natives of Erie, 333; natives of other parts of the United States, 88; Ireland, 44; England, 4; Scotland, 1; Canada, 1; Sweden, 1; Portugal, 1; Newfoundland, 1; Germany, 91; Switzerland, 2; unknown, 1; total, 569.

##### Ages of the Persons who Died in Erie in 1886.

Under one year of age, 134; from one to two years 53; from two to five years, 43; from five to ten years, 33; from ten to twenty years, 33; from twenty to thirty years, 39; from thirty to forty years, 43; from forty to fifty years, 36; from fifty to sixty years,



46; from sixty to seventy years, 42; from seventy to eighty years, 48; from eighty to ninety years, 16; over ninety years, 3; total, 569.

#### Causes of Death.

Pulmonary consumption, 74; convulsions, 62; pneumonia, 53; scarlet fever, 47; diarrhoeal diseases, 43; paralysis, 38; Bright's disease, 28; heart disease, 27; accidents, 20; inanition, 23; cancer, 20; spinal meningitis, 15; measles, 13; typhoid fever, 11; inflammation of bowels, 9; apoplexy, 8; malarial fever, 7; puerperal fever, 7; diphtheria, 7; premature births, 6; diseases of the liver, 6; dentition, 6; pyæmia, 6; suicide, 4; epilepsy, 4; inflammatory rheumatism, 4; croup, 4; congestion of lungs, 4; canker, 3; peritonitis, 3; strangulated hernia, 2; murder, 2; disease of stomach, 2; pleurisy, 1; disease of spinal column, 1; exposure, 1; erysipelas, 1; mumps, 1; bronchitis, 1; whooping cough, 1; piles, 1; unknown, 2; total, 569.

I receive the reports of the deaths from the physicians, undertakers and relatives of the dead persons and there is occasionally a dispute about the cause of death, particularly if several physicians were called in to see the patient. Such mistakes are always corrected by the local papers and in the death list.

#### The Annual Deaths of Erie.

Deaths in the year 1876,	350
Deaths in the year 1877,	347
Deaths in the year 1878,	375
Deaths in the year 1879,	405
Deaths in the year 1880,	490
Deaths in the year 1881,	549
Deaths in the year 1882,	499
Deaths in the year 1883,	440
Deaths in the year 1884,	496
Deaths in the year 1885,	477
Deaths in the year 1886,	569

#### Population and Death Rate.

According to the census of 1880, we had 27,730 inhabitants. According to the city directory of 1886, we have now 33,215 inhabitants. Whether the census and city directory are both correct I cannot tell. With 569 deaths last year, and that number is correct, we have a death rate of 17.1 per 1,000. If we should deduct the deaths caused by violence (twenty-five accidents, two murders, four suicides—altogether thirty-one) the rate would be smaller yet. This is done in other places, but I can see no sufficient reason for it; 17.1 deaths per thousand is a small death rate in comparison with other places, and one thing is certain, our death register is kept correct and nothing is hushed up in it. Every week and every month our death list is pub-

lished by all our local papers and the smallest error is corrected because everybody has a chance to read the list. Our city directory brings the annual death report every year, and this is all done without any further expense to the city.

#### Recommendations.

In order to get our statistics complete I would recommend again the passage of an ordinance for the registry of the births in our city. It requires nothing but a good-sized book and several hundred printed blanks to be filled out by the physicians and midwives and other persons and the registry ought to be free of expense. Any fee connected with the business would make the ordinance a dead letter and hurt the poor who have better use for the money on most occasions.

#### Births and Deaths.

As long as we don't know all the births in the city as well as the deaths, all the talk about the population is idle guess work. If we look the list over we find that the largest mortality took place in the month of October, 64 deaths; in June only 32 died.

In regard to the wards, the Second ward had 126 deaths during the last year, while the Fifth ward had only 48 deaths. Erie was the place of birth of 333 of last year's deaths. Of the foreign-born, Germany claimed 91, Ireland 44, while some other countries furnished only one apiece.

In regard to the ages, 230 children died under five years of age, while 19 persons lived to be over 80 years old.

Amongst the causes of death pulmonary consumption heads the procession with 74 cases. Next comes the terror of children, convulsions, 62, and pneumonia with 53; scarlet, typhoid, malarial and puerperal fevers; measles, diphtheria, cholera infantum, the so-called zymotic, filth and preventable diseases, killed 150 of our people, showing that there is still plenty of room for

#### Sanitary Improvements,

and that every dollar spent for removing and improving fever-breeding places by proper drainage will help to reduce our death rate. In order to reach that happy result, not only our city government, but every owner of a foot of ground in the city must do his share. Landlords ought to give their tenants houses with good roofs, dry cellars, sufficient drinking water, and vaults built according to hygienic ideas. Our country is getting thickly populated, and the sooner we commence to study the needs of all from a sanitary point of view the better it will be. There are still many old houses occupied by poor people, without any convenience whatever, containing all the year around sick people. These houses ought to be burned, like the small-pox hospital, which was, after all the talk, cleaner kept and in better



sanitary condition than many private houses. Unfortunately the people were down on it and it had to go. For four years we have had no *small-pox* in the city. No child ought to be admitted to school without being properly vaccinated. If we should discover a case of small-pox we will find some place for it and see that the patient won't starve or freeze in the street.

#### Cautionary Measures.

A short time ago some cases of typhoid fever occurred in a house and created a great deal of excitement. The family used the water of a polluted surface well, and as quick as they got good water to drink and cleaned up the surroundings of the well the disease disappeared. Many times a foul cellar, an obstructed house drain, a stagnant pool of water, an old fashioned over-filled outhouse, a poorly ventilated sleeping room, will cause sickness and death, and yet a few dollars could remedy the evil. In order to keep our streets and alleys cleaner we ought to have a garbage wagon, particularly in the thickly populated parts of the city. Instead of throwing garbage in empty lots it ought to be burned up in some old furnace. This is done already in other cities and could be done here with natural gas from our old wells near the outskirts of the city.

In anticipation of the cholera scourge the sanitarians of this and other countries have organized themselves to prevent as much as possible the ravages of that horrible disease, and they will do their duty to the extent of human power. Instead of recommending, as in olden times, shot-gun quarantines and other rough measures, they appeal through the public press to the intelligent part of the people and thousands of sanitary circulars are distributed free to everybody by our health associations and do a great deal of good. Our school teachers are also educating the minds of the children in hygiene, and the time has passed when diseases were looked at as a peculiar visitation of Providence without a sufficient cause.

Our markets are getting bigger every year. Unhealthy stuff is confiscated and given to the scavenger without much ceremony.

#### Expenses and Health Department Property.

The expenses of my department are, besides my salary, some stationery, printed blanks for death notices, funeral permits, etc.

With the small-pox hospital, all the furniture, the bob-sleigh and an old ambulance wagon went up in smoke, and I have nothing more in the shape of city property to take care of except my death book.

In conclusion I am much obliged to his honor the mayor and to all the council members for the support and good will shown me during my time of service.

Very respectfully,

E. W. GERMER,  
*Health Officer.*

**II. FIRST ANNUAL REPORT OF THE HEALTH OFFICER OF CORRY,  
ERIE COUNTY, FOR THE YEAR ENDING NOVEMBER 1, 1886.**

BENJ. LEE, M. D.,

*Secretary State Board of Health of Pennsylvania :*

DEAR SIR : The following is the first annual report of vital statistics of the city of Corry, Erie county, Pa. I also enclose you such blanks as I have had made for the city :

Cholera infantum, . . . . .	9	Hepatic colic, . . . . .	1
Pneumonia, . . . . .	2	Chronic inflammation of stomach, . . . . .	1
Old age, . . . . .	7	Malignant tumor, . . . . .	1
Inanition, . . . . .	1	Infantile jaundice, . . . . .	1
Paralysis, . . . . .	2	Croup, . . . . .	1
Apoplexy, . . . . .	3	Convulsions, . . . . .	3
Acute hepatitis, . . . . .	1	Bright's disease, . . . . .	2
Heart disease, . . . . .	5	Accident, . . . . .	2
Acute meningitis, . . . . .	1	Cancer, . . . . .	2
Phthisis, . . . . .	4	Epilepsy, . . . . .	1
Cholera morbus, . . . . .	2	Ovarian tumor, . . . . .	1
Typho-malarial fever, . . . . .	1	Acute gastritis, . . . . .	1
Chronic cystitis, . . . . .	1	Septicæmia, . . . . .	1
Dropsy, . . . . .	1		—
Abscess, . . . . .	3	Total, . . . . .	62
Obstruction of bowels, . . . . .	1		—

Of births we have had reported : Females, 81 ; males, 82 ; total, 163.  
Of marriages, 38.

It has been hard, up-hill work to get the clergy, etc., and physicians to report promptly all cases at the end of the quarter, but by perseverance I have succeeded, and now I am in hopes all will see the necessity of prompt action, and hereafter assist promptly at the end of each quarter in making reports.

Respectfully submitted.

C. B. KIBLER,  
*Health Officer, City of Corry, Pa.*

**III. ANNUAL REPORT OF THE HEALTH OFFICER OF SCRANTON  
FOR THE YEAR 1886.**

GENTLEMEN : Any attempt to review the work of the board of health during the past year, within any limits which the purpose for which this report is intended would prescribe as reasonable, must necessarily be the veriest outline, and even then more than ordinarily imperfect.

While for years there had been a steady growth towards proper san-

itation throughout the city, yet at the beginning of the past year the immensity of the undertaking might well have been considered discouraging. The hands of the board of health were practically tied, the funds for board of health purposes at the disposal of councils being necessarily limited, and public sentiment was in a lamentably lethargic state, while cess pools, privy vaults, pig pens, damp cellars, filthy tenements, and a host of other pestiferous details were scattered throughout the city in a profusion which positively beggars description. To attack such a state of affairs might well be denominated a Herculean task. The board of health, however, set to work with an energy and determination, whose efficacy the city's present sanitary status amply attests. In this connection a brief perusal of the vital statistics and a comparison with those of other cities may be of interest.

In 1885, with an estimated population of 70,000, there were 988 deaths within the city's limits from all causes, or  $14\frac{4}{32}$  to each thousand. In 1880, with an estimated population of 80,000, there were 1,067 deaths from all causes, or  $13\frac{27}{86}$  to each thousand. In 1885 there were 33 deaths from typhoid fever; in 1886, from the same cause, 16.

The mortality from zymotic diseases in 1886 was greater than in 1885, owing to the epidemic of dysentery attributable to violent atmospheric changes and the stagnant pools at Green Ridge.

A specially significant item is the fact that the infant mortality in 1886 was greater than in 1885.

The following tabular statement exhibits the number of deaths by ages in both years :

AGE.	1885.	1886.
Under 1 year, . . . . .	166	222
1 to 5, . . . . .	189	374
5 to 10, . . . . .	100	60
10 to 20, . . . . .	157	75
20 to 40, . . . . .	187	121
40 to 60, . . . . .	117	110
Over 60, . . . . .	72	105
Totals, . . . . .	988	1,067

For the purpose of comparison the death rate per thousand in the following cities during 1886 is cited :

Scranton, . . . . . 13.33	Utica, . . . . . 20.57
New York, . . . . . 25.96	St. Louis, . . . . . 20.07
Boston, . . . . . 23.17	London, Eng., . . . . . 20.09

Twenty-eight other English cities average 20.9.

It will thus be seen that though the total number of deaths from accidents in 1886, was 71, as against 29 in 1885, the death rate per thousand is only 13.33, while 20 per thousand may be assumed as a



standard rate. These statistics warrant the statement that the city's sanitary condition is exceptionally favorable. However, it will not do to stop here. In this connection, as in so many others, constant vigilance is of prime importance. Some progressive steps in sanitation have already been taken, but others just as essential demand attention. Among these may be mentioned the construction of proper sewers, for which the city's topography is especially advantageous. The present year will undoubtedly witness the completion of sewers in the Third and Fourth districts, the main sewers of the Third being now in course of construction along Washburn street, and may be considered as completed as far as Bromley avenue. Other sewer districts are contemplated, and their need is urgent.

Especially should there be no delay in constructing a sewer along Green Ridge street to prevent the flooding of sewage into the swamp at the rear of Spencer's iron works.

Another matter to which attention has been directed several times is the lack of market houses.

Of these, there might be at least three, if not four; one on the West side, one at Providence, one at Scranton, and the possible fourth at Green Ridge.

Why the city should be subjected to the scattered, multifarious evils which such market houses would eradicate, is difficult for any one conversant with municipal affairs in relation to the highest standard of sanitation to understand. It is needless at this time to detail the evil consequences which must inevitably attend whatever delay there may be on the part of councils in the matter of instituting market houses. It is utterly impossible to keep the first block on Penn avenue in any tolerable sort of sanitary condition without a market house for the central part of the city, and the sooner that fact is recognized the sooner will some part of the board of health's responsibility be lightened. This locality has been a source of much anxiety to the health authorities for two years, and has caused more friction in sanitary matters than any other in the city.

#### Stagnant Pools.

A matter which should engage the attention of your honorable body at its earliest convenience, is the draining or filling of all stagnant ponds, pools or swamps within the city limits. This matter has received attention in several reports to the board of health. Physicians' reports and the vital statistic record show a greater prevalence of disease and greater mortality in the vicinity of these than in other places, so that it is beyond doubt that their existence will always be a menace to public health. During the month of August of last year an epidemic of dysentery prevailed in the vicinity of the stagnant pool on Mylert avenue, which resulted in a mortality of thirteen persons. Near the stagnant pool between Eynon and Hampton

streets, in the Fifteenth ward, there were three cases of typhoid fever last summer, which attending physicians ascribed to that unhealthful spot.

In the vicinity of the swamp in rear of Spencer's iron works, Green Ridge, much sickness prevailed during the heated periods of the past two years, so that there is no mistaking the fact that sickness and mortality will be lessened by the speedy abolishment of those culture grounds for zymotic disease germs. It is needless to say that a special appropriation for this purpose should be made at once. Gentlemen of the councils will realize this, however, without any suggestion to that effect.

#### Drinking Water.

Numerous chemical analyses of water have been made during the year, all of which go to show an increasing unfitness of well water for family use. The city water has been analyzed a number of times, but has never shown any deleterious elements. There have been mineral deposits found in it from time to time, but none that are not amenable to filtering; and as the several scientific methods of filtering are now under examination by the water companies, it is safe to say that even this slight objection will soon be overcome. However, it is highly desirable that every family should have for its own use the most effective filter obtainable and this especially for the drinking water. In the summer time, when the city water is warm and "flat," the temptation to draw upon the cooler water of the wells will undoubtedly be great; but there is danger in all well-water, especially in thickly-settled localities; and the public should be warned against it in the most emphatic terms.

#### Garbage and Offal.

How to dispose of garbage and offal has been a serious question during the past year, and is not yet satisfactorily settled. There are three ways of disposing of garbage, viz: First, By a dumping ground; Second, By chemical destruction; Third, By burning. If some old mine working could be opened to the surface, so that the refuse could be dumped into it, and plenty of quick-lime or other corrosive agent dumped in at stated intervals, the best solution of the problem would be reached. If this cannot be done, the next most practicable method would be for the councils to select some locality for a dumping ground, where neither sight nor smell could be offended, designating it as the "Garbage Dumping Ground," and require strict obedience to an order that garbage should not be dumped elsewhere.

Notwithstanding the appointment of a garbage scavenger and the regular and special police, the garbage question is by no means disposed of satisfactorily. The city might easily be divided into districts after a dumping ground is designated, a scavenger appointed for each district, and such regulations made concerning household disposal of garbage as would insure its coming into the hands of the district scavenger to be carted to the dumping ground.

### Pigs and Pig Pens.

Another matter with which there should be no more dallying, is the pigs and pig pen nuisance. The denser the population, the more offensive this nuisance must become. When the city was a mere aggregation of sparsely settled villages, the pig pen question was of very slight importance, but last summer's record shows that the day of voluntary submission to the villainous stench of pig pens has passed in this city. It may seem to be a hardship to say that a man cannot keep a couple of pigs, but that is not the way to look at it. The thing is not an evil *per se*—the growth of the city has made it intolerable, and it should be totally eradicated—not one here and there, but every one in every part of the city.

There is a good deal of false sentimentality and quite as much sophistry wasted in this connection; it is not the absolutely poor man that keeps pigs, but his better circumstanced neighbor, as examination after examination by the board of health shows. And whether kept by rich or poor, the pig pen nuisance has become menacing and intolerable, and the highest sanitary wisdom dictates its total abolishment without fear or favor; and that wisdom will justify itself in a very short period after action in accordance with it shall have been taken.

### Defective Plumbing.

Sewer gas is one of the most insidious foes to the health of any community. According to high medical authority it is laden with bacteria and other low forms of animal life which produce a variety of diseases. Frequently sewer gas permeates dwellings without being detected by the occupants, except as it is indicated in poor appetites, languid feelings, unrefreshing sleep and the like, culminating in an attack of some well defined affection. The inauguration of a department of building inspection to guard against defective plumbing has been referred to in a report to the board of health, and recommended by Mayor Ripple in his annual report to councils. The matter is one worthy of your serious consideration. An objection on the ground of expense is overcome by the fact that the plan pursued in other cities, and which could be adopted here, makes the office self-sustaining. It is scarcely necessary to add that incalculable good would result from such a precaution.

### Manure Heaps.

This is a matter which has given rise to much annoyance, and has been considered by the health authorities during the past two years.

Many persons allow manure to remain for months exposed in yards and alleys, fully believing that manure is not a noxious element fraught with danger to public health.

The best sanitary authorities, however, regard it as a nuisance of no little moment, and medical men now agree that it is a prolific source of diseases, especially of diphtheria.



It is gratifying to note that through persistent effort on the part of the board of health many of these unsightly places have been reclaimed, and manure bins or vaults substituted for the previously haphazard way of having it scattered broadcast in the yards and alleys.

The coöperation of your honorable body in the abolishment of such places and in the strict enforcement of the rules and regulations of the health authorities in this connection is very much to be desired.

#### Sanitary Legislation.

A serious detriment to sanitation in the city of Scranton is the vague uncertainty of the authority of the board of health in matters properly within its province. Notwithstanding the laws and ordinances creating, directing and empowering the board of health, there is too much indefiniteness as to how far the board may enforce its mandates in many respects. Past experience has shown that parties acting under the advice of their attorneys may persist in bidding defiance to the most emphatic and necessary orders and regulations of the Board of health while case after case has been dismissed by aldermen simply because there was a woeful lack of well-defined authority to warrant a legal adjudication in accordance with the sanitary measures promulgated by the board. To remedy this defect, an ordinance known as a "Model Ordinance" was submitted to councils sometime ago; but it has not yet received the attention its importance would warrant. The domain of the board of health is one directly affecting the very life as well as the health and happiness of the people, and the authority confirmed by this model ordinance being essential to the board's efficiency, that ordinance should receive prompt and careful consideration as a wise precaution against emasculating all sanitary effort, and to check a growing disposition to retard and hamper the health authorities by legal intricacies and round-about methods.

Respectfully submitted.

JOHN O'MALLEY, M. D.,  
*Health Officer.*

SCRANTON, PA., *April 30, 1887.*

## IV. MORTUARY TABLES OF THE CITY OF PHILADELPHIA FOR THE YEAR 1887.

Deaths in the City of Philadelphia from Certain Diseases from January 1, 1887, to January 1, 1888.

Prepared for the State Board of Health by WILLIAM B. ATKINSON, M. D., Medical Inspector.

CAUSES OF DEATH.	Males.	Females.	Boys.	Girls.	Under one year.	One to two.	Two to five.	Five to ten.	Adults.	Minors.	Total.	People of color.	NATIVITY.		
													United States.	Foreign.	Unknown.
Total deaths.....	11,286	10,433	5,355	4,711	5,235	1,632	1,481	665	13,653	8,066	21,719	1,123	16,075	4,810	884
Measles.....	.....	.....	.....	.....	.....	.....	.....	.....	3	345	348	.....	.....	.....	.....
Diphtheria.....	.....	.....	.....	.....	.....	.....	.....	.....	10	413	423	.....	.....	.....	.....
Scarlet fever.....	.....	.....	.....	.....	.....	.....	.....	.....	6	164	170	.....	.....	.....	.....
Croup.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	472	472	.....	.....	.....	.....
Whooping cough.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	148	148	.....	.....	.....	.....
Typhoid fever.....	.....	.....	.....	.....	.....	.....	.....	.....	441	203	644	.....	.....	.....	.....
Dysentery.....	.....	.....	.....	.....	.....	.....	.....	.....	43	88	81	.....	.....	.....	.....
Cerebro-spinal meningitis.....	.....	.....	.....	.....	.....	.....	.....	.....	3	44	47	.....	.....	.....	.....
Cholera morbus.....	.....	.....	.....	.....	.....	.....	.....	.....	45	7	52	.....	.....	.....	.....
Cholera infantum.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	900	900	.....	.....	.....	.....
Congestion of lungs.....	.....	.....	.....	.....	.....	.....	.....	.....	89	165	254	.....	.....	.....	.....
Convulsions.....	.....	.....	.....	.....	.....	.....	.....	.....	22	935	957	.....	.....	.....	.....
Diarrhoea.....	.....	.....	.....	.....	.....	.....	.....	.....	78	106	184	.....	.....	.....	.....
Disease of the heart.....	.....	.....	.....	.....	.....	.....	.....	.....	677	108	785	.....	.....	.....	.....
Marasmus.....	.....	.....	.....	.....	.....	.....	.....	.....	11	962	973	.....	.....	.....	.....
Puerperal fever.....	.....	.....	.....	.....	.....	.....	.....	.....	81	3	84	.....	.....	.....	.....
Typhus mesenteric.....	.....	.....	.....	.....	.....	.....	.....	.....	1	30	30	.....	.....	.....	.....
Phthisis pulmonalis.....	.....	.....	.....	.....	.....	.....	.....	.....	2,581	342	2,923	.....	.....	.....	.....
Pneumonia.....	.....	.....	.....	.....	.....	.....	.....	.....	848	885	1,733	.....	.....	.....	.....
Inflammation of stomach and bowels.....	.....	.....	.....	.....	.....	.....	.....	.....	273	470	743	.....	.....	.....	.....
Old age.....	.....	.....	.....	.....	.....	.....	.....	.....	781	.....	781	.....	.....	.....	.....



**Causes of Death in the City of Philadelphia from January 1, 1887, to January 1, 1888.**

[Reduced to the Nomenclature and System of the United States Census, for the State Board of Health, by WILLIAM B. ATKINSON, M. D.,  
Medical Inspector.]

CAUSES OF DEATH.	Males.	Females.	Boys.	Girls.	Under one year.	One to two.	Two to five.	Five to ten.	Adults.	Minors.	Total.	People of color.	NATIVITY.		
													United States.	Foreign.	Unknown.
All causes.....	11,286	10,433	5,355	4,711	5,285	1,632	1,481	665	13,653	8,096	21,749	1,123	16,075	4,810	834
SPECIFIED CAUSES.															
Classes.															
I.—Zymotic diseases.....	.....	.....	.....	.....	.....	.....	.....	.....	1,055	3,000	4,055	.....	.....	.....	.....
II.—Constitutional diseases.....	.....	.....	.....	.....	.....	.....	.....	.....	3,498	1,557	5,055	.....	.....	.....	.....
III.—Local diseases.....	.....	.....	.....	.....	.....	.....	.....	.....	3,176	4,103	7,279	.....	.....	.....	.....
IV.—Developmental diseases.....	.....	.....	.....	.....	.....	.....	.....	.....	1,162	1,448	2,610	.....	.....	.....	.....
V.—Violent deaths.....	.....	.....	.....	.....	.....	.....	.....	.....	566	211	777	.....	.....	.....	.....
Orders.															
I.—1. Miasmatic diseases.....	.....	.....	.....	.....	.....	.....	.....	.....	886	2,961	3,847	.....	.....	.....	.....
2. Infective diseases.....	.....	.....	.....	.....	.....	.....	.....	.....	18	33	51	.....	.....	.....	.....
3. Diabetic diseases.....	.....	.....	.....	.....	.....	.....	.....	.....	141	6	147	.....	.....	.....	.....
II.—1. Biliary diseases.....	.....	.....	.....	.....	.....	.....	.....	.....	697	122	819	.....	.....	.....	.....
2. Tubercular diseases.....	.....	.....	.....	.....	.....	.....	.....	.....	2,731	435	3,166	.....	.....	.....	.....
III.—1. Diseases of nervous system.....	.....	.....	.....	.....	.....	.....	.....	.....	1,547	1,954	3,501	.....	.....	.....	.....
2. Diseases of organs of circulation.....	.....	.....	.....	.....	.....	.....	.....	.....	868	123	1,021	.....	.....	.....	.....
3. Diseases of respiratory organs.....	.....	.....	.....	.....	.....	.....	.....	.....	1,144	1,255	2,399	.....	.....	.....	.....
4. Diseases of digestive organs.....	.....	.....	.....	.....	.....	.....	.....	.....	863	643	1,506	.....	.....	.....	.....
5. Diseases of urinary organs.....	.....	.....	.....	.....	.....	.....	.....	.....	678	131	809	.....	.....	.....	.....
6. Diseases of generative organs.....	.....	.....	.....	.....	.....	.....	.....	.....	43	.....	43	.....	.....	.....	.....
7. Diseases of organs of locomotion.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	3	.....	.....	.....	.....
IV.—1. Developmental diseases of children.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	294	294	.....	.....	.....	.....
2. Developmental diseases of adults.....	.....	.....	.....	.....	.....	.....	.....	.....	24	.....	24	.....	.....	.....	.....
3. Developmental diseases of old people.....	.....	.....	.....	.....	.....	.....	.....	.....	781	.....	781	.....	.....	.....	.....
V.—1. Diseases of nutrition.....	.....	.....	.....	.....	.....	.....	.....	.....	400	1,780	2,178	.....	.....	.....	.....
2. Accidents or negligence.....	.....	.....	.....	.....	.....	.....	.....	.....	450	207	657	.....	.....	.....	.....
3. Homicide.....	.....	.....	.....	.....	.....	.....	.....	.....	16	3	19	.....	.....	.....	.....
4. Suicide.....	.....	.....	.....	.....	.....	.....	.....	.....	62	.....	62	.....	.....	.....	.....
5. Violent (not classed).....	.....	.....	.....	.....	.....	.....	.....	.....	8	1	9	.....	.....	.....	.....

CLASS I.—ZYMOTIC DISEASES.....																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
--------------------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

## Deaths in the City of Philadelphia—Continued.

CAUSES OF DEATH.	Males.	Females.	Boys.	Girls.	Under one year.	One to two.	Two to five.	Five to ten.	Adults.	Minors.	Total.	People of color.	NATIVITY.		
													United States.	Foreign.	Unknown.
2.— <i>Diseases of Organs of Circulation.</i> .....									898	123	1,021	.....	.....	.....	.....
Pericarditis.....									44	10	54	.....	.....	.....	.....
Aneurism.....									32	.....	32	.....	.....	.....	.....
Hypertrophy of heart, etc.....									122	7	129	.....	.....	.....	.....
Embolism.....									23	.....	23	.....	.....	.....	.....
Heart disease, etc.....									718	110	828	.....	.....	.....	.....
3.— <i>Diseases of Respiratory System.</i> .....									1,144	1,255	2,399	.....	.....	.....	.....
Laryngitis.....									21	42	63	.....	.....	.....	.....
Bronchitis.....									140	289	429	.....	.....	.....	.....
Pneumonia.....									24	6	30	.....	.....	.....	.....
Pleurisy.....									848	885	1,733	.....	.....	.....	.....
Asthma.....									31	.....	31	.....	.....	.....	.....
Lung disease, etc.....									10	23	33	.....	.....	.....	.....
4.— <i>Diseases of Digestive Organs.</i> .....									180	185	365	.....	.....	.....	.....
Pharyngitis.....									883	643	1,526	.....	.....	.....	.....
Peritonitis.....									172	41	213	.....	.....	.....	.....
Acidities.....									10	2	12	.....	.....	.....	.....
Ulcer of intestine.....									20	4	24	.....	.....	.....	.....
Hernia.....									21	2	23	.....	.....	.....	.....
Intussusception.....									5	0	5	.....	.....	.....	.....
Jaundice.....									12	14	26	.....	.....	.....	.....
Hepatitis.....									23	3	26	.....	.....	.....	.....
Inflammation of stomach and bowels.....									273	470	743	.....	.....	.....	.....
Liver and spleen disease, etc.....									238	96	334	.....	.....	.....	.....
5.— <i>Diseases of Urinary Organs.</i> .....									678	131	809	.....	.....	.....	.....
Nephritis.....									46	7	53	.....	.....	.....	.....
Bright's disease.....									236	80	316	.....	.....	.....	.....
Diabetes.....									43	3	46	.....	.....	.....	.....
Cystitis.....									32	.....	32	.....	.....	.....	.....
Trauma.....									82	.....	82	.....	.....	.....	.....
6.— <i>Diseases of Organs of Generation.</i> .....									184	34	218	.....	.....	.....	.....
Ovarian dropsy.....									43	.....	43	.....	.....	.....	.....
Diseases of Uterus, etc.....									6	.....	6	.....	.....	.....	.....
									37	.....	37	.....	.....	.....	.....

[illegible]

V. EXTRACTS FROM THE FOURTEENTH ANNUAL REPORT OF  
THE BOARD OF HEALTH OF THE CITY OF READING, FOR  
THE YEAR 1886.

---

It is gratifying to be able to state that during the year 1886 the city has been exempt from epidemic diseases of every nature. The general health of the city continues good and will compare favorably with that of cities of similar size in the United States.

Vital Statistics.

The vital statistics accompanying this report are not only highly interesting for the information they contain, but they should be given the widest publicity, since there is no class of facts, all things considered, which outrank in real importance those which relate to the healthfulness of a city which is seeking to multiply its industries and augment its wealth and population. Generally speaking, a city's death rate is an approximately fair index of its sanitary condition.

Water Supply.

Impure drinking water has long been recognized as one of the most potent causes of disease and death. Numerous investigations have shown that a great mortality visits certain classes and communities, in consequence of using water contaminated by organic matter. Impure water, like impure air, may engender a general impairment of the health without giving rise to any very well pronounced diseases.

The injurious effects upon the animal economy of drinking the water from wells and springs located in different parts of the city, have been so often pointed out before that it seems almost superfluous to revert to the subject again. The presence of organic matter in well and spring water, percolated through the soil from cess-pools, or other filth accumulations, converts drinking water into a dangerous poison fraught with disease and death. There is danger in water known to be contaminated with animal matter, and the germs of disease, which may be communicated in this way, have a tenacity of life altogether beyond our knowledge. During the warm weather of summer, when the water from our reservoirs becomes "fishy" and nauseating from vegetable matter, hundreds of our citizens resort to the abandoned wells and springs with which Reading is supplied and obtain therefrom water for drinking purposes. Too much stress cannot be given the fact that a specimen of well or spring water, as clear as crystal, and which appears to be all right so far as the senses of sight, taste and smell are concerned, may yet be very impure, as a chemical analysis will show. In the propagation of typhoid fever, no agent is so active as a polluted water supply.



### Waste Material.

This city will soon be confronted with the perplexing question of how to dispose of its refuse material. This is one of the most difficult questions with which authorities in cities have to deal, but one whose importance cannot be evaded or ignored. The almost endless discussion of the matter by health authorities everywhere, shows a wide divergence of opinion, and indicates that the true remedy has not yet been discovered.

In most cities, at the present time, this waste material is disposed of in one of three ways: 1. By dumping it on ground adapted for the purpose, and in localities where it will not be offensive to sight or smell; 2. By burning; 3. By depositing it in lakes, rivers, or in the sea.

Theoretically by far the best way of disposing of this offensive material is to burn it. This would cause a complete destruction of the material itself, and any germ of disease which might be contained in it. But the process is exceedingly expensive and on that account impracticable.

A sewerage farm, carried on by private enterprise, or at the public expense, where all refuse material could be converted into and used as a fertilizer, seems to us to be the most feasible and most economical plan.

### Sewers.

The more compact the population the greater becomes the necessity for sewers. With the increase of buildings and the macadamizing of streets less of the surface water is absorbed by the earth, taxing our gutters to the utmost, very often overflowing the sidewalks and flooding the cellars of dwellings. We are aware that the construction of sewers involves a large expenditure of money, but they are greatly needed for sanitary reasons. From the standpoint of public health it would be difficult to exaggerate the benefits which will ultimately accrue to the people by the adoption of a system of public sewerage.

### Private Alleys.

The plan adopted by this department of grading and paving private alleys and collecting the cost thereof from the owners of property abutting thereon, according to law, has resulted in the improvement of a number of these thoroughfares, and appears to be the most effective way of disposing of the nuisances created by them. Work of this character was always given the most careful consideration, and no recommendations were made without the necessity for it being imperative.

### Ponds or Foul Surface Water.

There can be little doubt that ponds of foul and stagnant water are a cause of disease. While it may be somewhat difficult to define the

precise relation that exists between the presence of offensive and stagnant water on the one hand and the prevalence of disease on the other, yet a careful study of the matter has convinced us that such ponds of water are breeders of disease of no inconsiderable importance.

Three suits for violation of the rules were instituted, in all three of which judgment was obtained against the defendants.

Report of the Market Commissioner.

*To the President and Members of the Board of Health :*

GENTLEMEN: In submitting my annual report, it affords me pleasure to say that with all the diligence and watchfulness possible on my part I had no occasion to make any seizures of meat, fish or vegetables exposed for sale in our markets. I collected during the year over three hundred samples of milk from two hundred and forty-six dealers selling milk in this city and had it analyzed, with the result herewith transmitted.

Respectfully submitted.

DANIEL BAUS,  
*Market Commissioner.*

The specific gravity of milk is obtained by means of the lactometer, and the per cent. of cream, by the creamometer, the milk being at a temperature of sixty degrees Fahrenheit. The standard as adopted by the board is as follows:

	<i>Minimum.</i>	<i>Mean.</i>
Specific gravity of milk, . . . . .	1026	1032
Specific gravity of whey, . . . . .	1025	1028
Amount of solids, . . . . .	11.8	12.5
Amount of solids not fat, . . . . .	8.8	9.3
Amount of sugar, . . . . .	4.8	5.2
Amount of ashes containing the salts, . . . . .	.71	.79
Amount of water, . . . . .	88.	87.5
Amount of cream by volume, . . . . .	9.	12.

The mean figures represent ordinary good milk.

Marriages—583.

Five hundred and eighty-three marriages were solemnized during the year 1886, a decrease of seventy-one as compared with last year.

Forty-four of the marriages occurred January, fifty in February, thirty-three in March, forty-two in April, fifty-six in May, forty-seven in June, forty three in July, forty-four in August, fifty-four in September, forty-eight in October, fifty in November, and seventy-two in December.

The ages of the contracting parties were:

Under 20— 27 men and 161 women.

20 to 25—294 men and 272 women.

25 to 30—154 men and 84 women.

30 to 40— 64 men and 41 women.

40 to 50— 23 men and 15 women.

50 to 60— 12 men and 4 women.

60 to 70— 3 men and 1 woman.

Age not given— 6 men and 5 women.

#### Nationality of Grooms and Brides.

1886.	QUARTER ENDING MARCH 31, 1886.		QUARTER ENDING JUNE 30, 1886.		QUARTER ENDING SEPT. 30, 1886.		QUARTER ENDING DEC. 31, 1886.		TOTAL.	
	Grooms.	Brides.	Grooms.	Brides.	Grooms.	Brides.	Grooms.	Brides.	Grooms.	Brides.
City, . . . . .	29	39	47	44	42	49	44	36	162	168
County, . . . . .	68	62	59	60	64	69	91	94	282	285
State, . . . . .	10	12	12	21	19	18	20	27	61	78
United States, . . . . .	4	1	7	5	5	1	3	3	19	10
Foreign, . . . . .	14	10	12	8	8	3	10	8	44	29
Not given, . . . . .	2	3	8	7	3	1	2	2	15	13
Total, . . . . .	127	127	145	145	141	141	170	170	583	583

Table Showing the Ages of the Parties at the Time of Marriage.

AGES OF GROOMS.	AGES OF BRIDES.								Total men.
	Under 20 years.	20 to 25.	25 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	Not given.	
Under 20 years, . . . . .	19	8	. . .	. . .	. . .	. . .	. . .	. . .	27
20 to 25 years, . . . . .	105	162	24	3	. . .	. . .	. . .	. . .	294
25 to 30 years, . . . . .	32	84	34	4	. . .	. . .	. . .	. . .	154
30 to 40 years, . . . . .	5	16	20	20	3	. . .	. . .	. . .	64
40 to 50 years, . . . . .	. . .	2	5	10	6	. . .	. . .	. . .	23
50 to 60 years, . . . . .	. . .	. . .	. . .	3	6	2	1	. . .	12
60 to 70 years, . . . . .	. . .	. . .	1	. . .	. . .	2	. . .	. . .	3
Not given, . . . . .	. . .	. . .	. . .	1	. . .	. . .	. . .	5	6
Total women, . . . . .	161	272	84	41	15	4	1	5	583

Births—1,566.

Fifteen hundred and sixty-six births were reported during the year, an increase of one hundred and fifteen over last year. Seven hundred



and eighty-seven were males, and seven hundred and seventy-nine females. Six were colored, four males and two females. Twins of the same sexes were born in the Second, Third, Seventh, Eighth, Tenth and Twelfth wards, and in two the place of residence is not mentioned. Those of opposite sexes in the Sixth, and in one the ward is not given. The months in which twins were born were January (2), February (1), March (1), April (2), May (2), June (1), July (5), August (1), October (1), November (1), December (1).

During the month of January there were one hundred and forty births; February, one hundred and fifty-four; March, one hundred and forty-six; April, one hundred and fifteen; May, one hundred and twenty-eight; June, one hundred and twenty-two; July, one hundred and thirty-nine; August, one hundred and thirty-seven; September, one hundred and twenty-one; October, one hundred and fourteen; November, one hundred and fifteen; and December, one hundred and thirty-five.

Sixty-three births occurred in the First ward, two hundred and twenty-seven in the Second ward, seventy-six in the Third ward, thirty in the Fourth ward, fifty-five in the Fifth ward, ninety-seven in the Sixth ward, sixty in the Seventh ward, sixty-nine in the Eighth ward, ninety-one in the Ninth ward, eighty-eight in the Tenth ward, forty-nine in the Eleventh ward, forty-three in the Twelfth ward, and forty-five in the Thirteenth ward.

The excess of births over deaths in the city was seven hundred and five.

#### Deaths—861.

Permits were issued by the department for the burial of nine hundred and sixty-one bodies during the year 1886. Of this number one hundred were brought here from other places, leaving a net total for the city of eight hundred and sixty-one, including still-born and premature births, being a decrease of one hundred and sixty-four as compared with last year. There were eighty-two still-births and thirty-five premature births. Eight deaths occurred among the colored people, and eight hundred and fifty-three among the white population.

Two hundred and eighty-four were married, five hundred and seventy-eight were single, ninety-two were widowed, and in seven the social condition could not be ascertained.

Five hundred and thirty were males, four hundred and twenty-nine were females, and in two the sex was not given.

Eight hundred and fifty-five were born in the United States, eighty-eight were of foreign birth, and in the remaining eighteen the place of birth was not mentioned.

Three hundred and seven died under the age of one year, thirty-nine prior to the second year, forty-five before reaching the fifth year, thirty-six between five and ten, one hundred between ten and thirty, one hundred and sixty-nine between thirty and sixty, one hundred

and thirty-six between sixty and eighty, twenty-six between eighty and ninety, and two between ninety and one hundred.

Adding together the number of deaths under ten years we have a total of four hundred and twenty-seven, or 49.59 per cent. of all deaths.

The average number of deaths per month is 71.75, a decrease of 13.66 as compared with last year. The least number of deaths in any one month, was sixty, in June; the greatest number, one hundred and seven, in August.

The average number of deaths per week was 16.55. The greatest number reported during any one week, was for the week ending May 10, when there were thirty deaths; the least number for the week ending January 26, nine deaths.

One hundred and thirty-five belong to the class zymotic, one hundred and eighty-seven to the constitutional, three hundred and four to the local, one hundred and ninety-eight to the developmental, thirty-four were the result of violence, and three were unclassified.

The estimated population for 1886 is 52,250; the annual ratio of deaths per 1,000 inhabitants is 16.4.

The following statement in tabular form shows the population and death rate for a period of five years; still-born and premature births included:

<i>Year.</i>	<i>Estimated population.</i>	<i>Total No. of deaths.</i>	<i>Death rate.</i>
1882, . . . . .	45,750 . . . . .	890 . . . . .	19.4
1883, . . . . .	47,500 . . . . .	869 . . . . .	18.2
1884, . . . . .	49,000 . . . . .	917 . . . . .	18.7
1885, . . . . .	50,500 . . . . .	1,025 . . . . .	20.2
1886, . . . . .	52,250 . . . . .	861 . . . . .	16.4





The nationality of the decedents was follows :

United States, . . . . .	864	Poland, . . . . .	4
Germany, . . . . .	50	France, . . . . .	4
Ireland, . . . . .	16	Italy, . . . . .	1
England, . . . . .	10	Unknown, . . . . .	11
Sweden, . . . . .	1		

CLASS.		1886.				
		1st Quarter.	2d Quarter.	3d Quarter.	4th Quarter.	Total.
Zymotic, . . . . .	{ City, . . . . .	29	22	51	33	135
	{ Brought from distance, . .	3	1	3	4	
Constitutional, . . . .	{ City, . . . . .	45	47	46	49	187
	{ Brought from distance, . .	5	5	3	6	
Local, . . . . .	{ City, . . . . .	77	82	68	77	304
	{ Brought from distance, . .	10	12	12	9	
Developmental, . . . .	{ City, . . . . .	40	47	58	53	198
	{ Brought from distance, . .	4	3	3	2	
Violence, . . . . .	{ City, . . . . .	7	7	14	6	34
	{ Brought from distance, . .	2	1	6	2	
Miscellaneous, . . . .	{ City, . . . . .	0	1	1	1	3
	{ Brought from distance, . .	3	0	0	1	
Total, . . . . .	{ City, . . . . .	198	206	238	219	861
	{ Brought from distance, . .	27	22	27	24	

#### Monthly Mortality in the City from 1874 to 1886.

	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.	1885.	1886.
January, . . . .	66	58	101	83	63	69	53	75	93	75	71	90	58
February, . . . .	59	52	104	63	56	66	72	69	69	78	66	93	72
March, . . . . .	60	65	107	69	68	80	79	63	78	85	62	86	69
April, . . . . .	59	70	73	59	67	47	48	66	79	73	53	77	73
May, . . . . .	64	62	86	73	52	57	68	63	76	76	67	90	77
June, . . . . .	67	58	88	59	39	47	80	64	68	70	61	83	56
July, . . . . .	77	103	108	104	97	64	93	82	75	105	79	110	70
August, . . . . .	90	101	99	99	61	74	64	102	82	79	86	106	98
September, . . . .	67	58	70	76	54	67	57	81	81	53	89	77	70
October, . . . . .	60	72	86	75	63	57	62	83	86	61	91	75	70
November, . . . .	55	78	93	55	69	66	73	73	47	59	90	61	67
December, . . . .	60	89	103	68	72	66	66	74	56	55	102	77	81
Total, . . . . .	...	...	...	...	...	...	...	...	...	...	...	...	861

Table Showing Ages of Decedents for 1886.

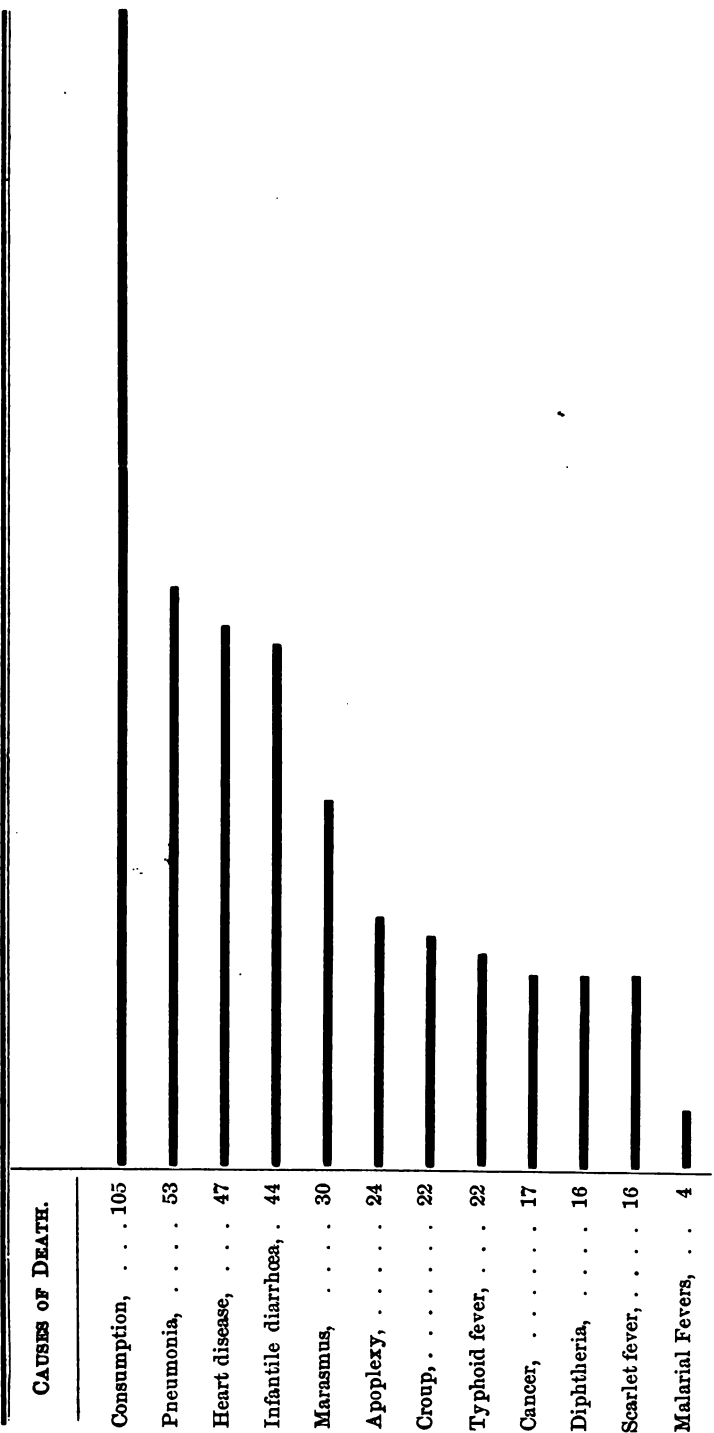
	Under 1 year.	1 to 2.	2 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 30.	30 to 40.	40 to 50.	50 to 60.	60 to 70.	70 to 80.	80 to 90.	90 to 100.	Not given.	
Interments, .....	320	40	52	44	17	28	71	77	64	56	83	72	32	4	1	....
Brought from distance, .....	13	1	7	8	2	4	10	16	7	5	11	8	6	2	....	100
	307	39	45	36	15	24	61	61	57	51	72	64	26	2	1	861

A Recapitulation of the Marriages, Births and Deaths for Each Month  
will be Found in the Following Table.

## RECAPITULATION.

MONTHS.	Marriages.	Births.	Deaths.	Total registration.
January, . . . . .	44	140	64	248
February, . . . . .	50	154	81	285
March, . . . . .	33	146	81	260
April, . . . . .	42	115	81	238
May, . . . . .	56	128	86	270
June, . . . . .	47	122	60	229
July, . . . . .	43	139	75	257
August, . . . . .	44	137	107	288
September, . . . . .	54	121	83	258
October, . . . . .	48	114	79	241
November, . . . . .	50	115	75	240
December, . . . . .	72	135	89	296
Total, . . . . .	583	1,566	961	3,110

Diagram Showing the Comparative Mortality by Absolute Number of Decedents From Twelve Prominent Causes of Death During 1886 in Reading, Pa.



## A Recapitulation of Some of the Most Prominent Diseases.

## PULMONARY CONSUMPTION.

This disease stands at the head of the list for the year 1886. The total deaths from consumption are one hundred and five. The disease was most prevalent during January, April and December. The total deaths for the first quarter were twenty-nine; second quarter, thirty; third quarter, twenty-one, and in the last quarter twenty-five. Forty-nine were males and fifty-six females. Fifty-one died between the age of twenty and forty, and thirty-seven between forty and seventy.

## PNEUMONIA.

Fifty-three persons died from pneumonia. Of this number twenty-three were adults and thirty minors.

## INFANTILE DIARRHŒA.

The above appellation is intended to include all those cases under two years of age whose deaths are certified to result from "summer complaint," "cholera infantum," "diarrhœa," "dysentery," "enterocolitis," etc. Cholera infantum attacks children of every age, but is by far most common in the first and second years. This fact clearly shows that the manner of nourishment plays an important part in producing the disease, while high atmospheric temperature, by increasing the tendency to fermentation dyspepsia, is another factor that must also be taken into consideration. Forty-four deaths are attributed to the above-mentioned diseases.

## DIPHTHERIA.

This disease was much less prevalent than in 1885. Only sixteen deaths are recorded under this head.

## CROUP.

Under the head croup are included only such cases as are certified to belong to membranous or spasmodic croup. "Diphtheritic croup" is classed with diphtheria. Croup proper carried off twenty-two children.

## SCARLET FEVER.

Only sixteen deaths are reported to have resulted from scarlet fever. A lower percentage of mortality from this disease than has been experienced for several years.

Twenty-two died from typhoid fever.



## A GENERAL SUMMARY.

		<i>Percentage of total mortality.</i>
Zymotic diseases, . . . . .	134	15.5
Constitutional diseases, . . . . .	187	21.7
Local diseases, . . . . .	304	35.3
Developmental diseases, . . . . .	198	22.9
Deaths from violence, . . . . .	34	3.9

A retrospective glance at the work of the department during the past year sufficiently demonstrates the fact that much sickness and consequent loss of life may be prevented by proper sanitary measures judiciously applied and conscientiously carried out. A careful perusal of the foregoing tables shows that we have a comparatively healthy city, and a minimum mortality, and it follows as a corollary that the sanitary condition of the city is good. We do not doubt that this is largely owing to the increased interest of individual citizens aided by the constant promptings of the people by the health authorities. The principles that underlie all sanitary work are simple enough, and the teachings of modern scientists must convince every one that it is only by the minutest attention to details that we can hope to successfully guard ourselves against the dangers that surround us. It is the earnest longing of the Board to see, in the near future, in and around every human habitation pure air, pure water and pure soil.

All of which is respectfully submitted.

M. A. RHOADS, M. D.,  
*President.*

*January 31, 1887.*



---

APPENDIX D.

---

---

BILLS INTRODUCED INTO THE LEGISLATURE,  
OR, SUPPORTED BY THE COMMITTEE ON  
SANITARY LEGISLATION: SESSION OF 1887.

---

- A. Bills which passed.
1. An Act to provide for the printing and binding of the Annual Report.
  2. An Act to provide for the current expenses of the Board.
  3. A joint resolution authorizing the printing of the Compendium and Sanitary Laws.
  4. An Act establishing Boards of Health in cities of the fourth, fifth, sixth and seventh classes.
- B. Bills which failed to pass.
5. An Act to provide for the employment of an additional clerk in the Department of Internal Affairs.
  6. An Act to provide for State registration of marriages.
  7. An Act to establish County Boards of Health.
  8. An Act to prevent pollution of water and air.
  9. An Act to regulate the transportation and storage of dynamite and other explosives.
  10. An Act to prevent traffic in impure, adulterated and unwholesome milk.
- 

---

I.

---

This act was passed as Section XIX, of Act No. 25, and was approved by the Governor, April 16, 1887.

---

AN ACT

To provide for the printing and binding of the annual report of the State Board of Health and Vital Statistics.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same.* That five thousand copies of the annual report of the State Board of Health and Vital Statistics be printed annually, four thousand to be bound in muslin and one thousand in paper, seventeen hundred and fifty [1,750] thereof for the use of the House of Representatives, one thousand [1,000] thereof for the use of the Senate, seventy-five [75] thereof for the use of the Governor, seventy-five [75] thereof for the State Librarian for distribution and exchange with the States and Territories, five hundred [500] thereof for reserve work and the remainder thereof for exchange and distribution by the State Board of Health.

II.

---

This Act passed both Houses and was approved by the Governor, June 2, 1887.

## AN ACT

To provide for the current expenses of the State Board of Health and Vital Statistics for the year commencing on the first day of June, Anno Domini one thousand eight hundred and eighty-seven and also for the year commencing on the first day, of June, Anno Domini one thousand eight hundred and eighty-eight.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly, met, and it is hereby enacted by the authority of the same,* That the following sums be and are hereby specifically appropriated to defraying the expenses of the State Board of Health and Vital Statistics for two years namely: For the year commencing on the first day of June, Anno Domini one thousand eight hundred and eighty-seven, and also, for the year commencing on the first day of June, Anno Domini, one thousand eight hundred and eighty-eight: for the salary of secretary and executive officer for two years, four thousand dollars; for employment of necessary clerical aid in the office of the Board for two years, fifteen hundred dollars, or so much thereof as may be necessary; for postage, telegrams, express charges and incidental expenses for two years, one thousand dollars, or so much thereof as may be necessary; for travelling and other necessary expenses of the members and Secretary of the Board while engaged on the actual duties of the Board for two years, one thousand dollars, or so much thereof as may be necessary; for sanitary inspections and sanitary investigations respecting the cause of disease and control of epidemics for two years, twenty-five hundred dollars, or so much thereof as may be necessary.

---

III. JOINT RESOLUTION No. 34 P. L., APPROVED MAY 13, 1887,  
AUTHORIZING THE PRINTING OF THE COMPENDIUM OF SANI-  
TARY LAWS OF THE COMMONWEALTH.

---

IN THE HOUSE OF REPRESENTATIVES,  
*February 18, 1887.*

*Resolved* (if the Senate concur), That five thousand copies of the compendium of the sanitary laws of the Commonwealth, prepared by the State Board of Health, in obedience to the requirements of section fifth of the act establishing said Board, be printed in pamphlet form, paper covers, seventeen hundred and fifty thereof for the use of the House of Representatives, one thousand thereof for the use of the Senate, seventy-five thereof for distribution by the Governor, seventy-five for the use of the State Librarian, for distribution and exchange

with States and Territories, and the remainder for the use of the State Board of Health.

---

IV. ACT ESTABLISHING BOARDS OF HEALTH IN CITIES CONTAINING A POPULATION OF LESS THAN SEVENTY-FIVE THOUSAND, APPROVED MAY 24, 1887. No. 144 P. L.

---

AN ACT

Dividing cities of this State into seven classes \* \* \* and providing for the incorporation and government of cities of the fourth, fifth, sixth and seventh classes.

ARTICLE XV.

*Board of Health.*

SECTION 1. The councils of any city of the fourth, fifth, sixth or seventh class shall have power by ordinance to create a board of health as herein provided, with the powers and duties herein enumerated.

SECTION 2. The said board shall consist of five members, who shall serve without compensation and none of whom shall be members of councils. At least two of their number shall be reputable physicians of not less than five years' experience in the practice of their profession. The board shall be appointed by districts to be fixed by councils, representing as equally as may be all portions of the city, and shall serve for the term of five years from the first Monday of April succeeding their appointment. The mayor shall nominate, and by and with the consent of the select council, appoint the members of said board, and shall in like manner remove any or all of them for official misconduct or neglect of duty, and fill all vacancies for the unexpired term. At the first appointment the mayor shall designate one of the members to serve for one year, one to serve for two years, one to serve for three years, one to serve for four years, and one to serve for five years, and thereafter one member of said board shall be appointed annually for the term of five years.

SECTION 3. The members of the board shall severally take and subscribe the oath herein prescribed for city officers, and shall annually organize by the choice of one of their number as president. They shall elect a secretary, not out of their body, who shall keep the minutes of their proceedings and perform such other duties as may be directed by the board, and a health officer, who shall execute the orders of the board, and for that purpose the said health officer shall have and exercise the powers and authority of a policeman of the city. The secretary and health officer shall each receive such salary as may be fixed by the board, and shall hold their offices during the





## APPENDIX D.

BILLS INTRODUCED INTO THE LEGISLATURE,  
OR, SUPPORTED BY THE COMMITTEE ON  
SANITARY LEGISLATION: SESSION OF 1887.

- A. Bills which passed.
1. An Act to provide for the printing and binding of the Annual Report.
  2. An Act to provide for the current expenses of the Board.
  3. A joint resolution authorizing the printing of the Compendium and Sanitary Laws.
  4. An Act establishing Boards of Health in cities of the fourth, fifth, sixth and seventh classes.
- B. Bills which failed to pass.
5. An Act to provide for the employment of an additional clerk in the Department of Internal Affairs.
  6. An Act to provide for State registration of marriages.
  7. An Act to establish County Boards of Health.
  8. An Act to prevent pollution of water and air.
  9. An Act to regulate the transportation and storage of dynamite and other explosives.
  10. An Act to prevent traffic in impure, adulterated and unwholesome milk.

## I.

This act was passed as Section XIX, of Act No. 25, and was approved by the Governor, April 16, 1887.

## AN ACT

To provide for the printing and binding of the annual report of the State Board of Health and Vital Statistics.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same.* That five thousand copies of the annual report of the State Board of Health and Vital Statistics be printed annually, four thousand to be bound in muslin and one thousand in paper, seventeen hundred and fifty [1,750] thereof for the use of the House of Representatives, one thousand [1,000] thereof for the use of the Senate, seventy-five [75] thereof for the use of the Governor, seventy-five [75] thereof for the State Librarian for distribution and exchange with the States and Territories, five hundred [500] thereof for reserve work and the remainder thereof for exchange and distribution by the State Board of Health.

## II.

This Act passed both Houses and was approved by the Governor, June 2, 1887.

## AN ACT

To provide for the current expenses of the State Board of Health and Vital Statistics for the year commencing on the first day of June, Anno Domini one thousand eight hundred and eighty-seven and also for the year commencing on the first day, of June, Anno Domini one thousand eight hundred and eighty-eight.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly, met, and it is hereby enacted by the authority of the same,* That the following sums be and are hereby specifically appropriated to defraying the expenses of the State Board of Health and Vital Statistics for two years namely: For the year commencing on the first day of June, Anno Domini one thousand eight hundred and eighty-seven, and also, for the year commencing on the first day of June, Anno Domini, one thousand eight hundred and eighty-eight: for the salary of secretary and executive officer for two years, four thousand dollars; for employment of necessary clerical aid in the office of the Board for two years, fifteen hundred dollars, or so much thereof as may be necessary; for postage, telegrams, express charges and incidental expenses for two years, one thousand dollars, or so much thereof as may be necessary; for travelling and other necessary expenses of the members and Secretary of the Board while engaged on the actual duties of the Board for two years, one thousand dollars, or so much thereof as may be necessary; for sanitary inspections and sanitary investigations respecting the cause of disease and control of epidemics for two years, twenty-five hundred dollars, or so much thereof as may be necessary.

III. JOINT RESOLUTION No. 34 P. L., APPROVED MAY 13, 1887,  
AUTHORIZING THE PRINTING OF THE COMPENDIUM OF SANITARY LAWS OF THE COMMONWEALTH.

IN THE HOUSE OF REPRESENTATIVES,  
*February 13, 1887.*

*Resolved* (if the Senate concur), That five thousand copies of the compendium of the sanitary laws of the Commonwealth, prepared by the State Board of Health, in obedience to the requirements of section fifth of the act establishing said Board, be printed in pamphlet form, paper covers, seventeen hundred and fifty thereof for the use of the House of Representatives, one thousand thereof for the use of the Senate, seventy-five thereof for distribution by the Governor, seventy-five for the use of the State Librarian, for distribution and exchange

with States and Territories, and the remainder for the use of the State Board of Health.

---

IV. ACT ESTABLISHING BOARDS OF HEALTH IN CITIES CONTAINING A POPULATION OF LESS THAN SEVENTY-FIVE THOUSAND, APPROVED MAY 24, 1887. No. 144 P. L.

---

AN ACT

Dividing cities of this State into seven classes \* \* \* and providing for the incorporation and government of cities of the fourth, fifth, sixth and seventh classes.

ARTICLE XV.

*Board of Health.*

SECTION 1. The councils of any city of the fourth, fifth, sixth or seventh class shall have power by ordinance to create a board of health as herein provided, with the powers and duties herein enumerated.

SECTION 2. The said board shall consist of five members, who shall serve without compensation and none of whom shall be members of councils. At least two of their number shall be reputable physicians of not less than five years' experience in the practice of their profession. The board shall be appointed by districts to be fixed by councils, representing as equally as may be all portions of the city, and shall serve for the term of five years from the first Monday of April succeeding their appointment. The mayor shall nominate, and by and with the consent of the select council, appoint the members of said board, and shall in like manner remove any or all of them for official misconduct or neglect of duty, and fill all vacancies for the unexpired term. At the first appointment the mayor shall designate one of the members to serve for one year, one to serve for two years, one to serve for three years, one to serve for four years, and one to serve for five years, and thereafter one member of said board shall be appointed annually for the term of five years.

SECTION 3. The members of the board shall severally take and subscribe the oath herein prescribed for city officers, and shall annually organize by the choice of one of their number as president. They shall elect a secretary, not out of their body, who shall keep the minutes of their proceedings and perform such other duties as may be directed by the board, and a health officer, who shall execute the orders of the board, and for that purpose the said health officer shall have and exercise the powers and authority of a policeman of the city. The secretary and health officer shall each receive such salary as may be fixed by the board, and shall hold their offices during the



pleasure of the board, and shall severally give bond to the city, in such sum as may be fixed by ordinance, for the faithful discharge of their duties, and take and subscribe the oath required of the members of the board. All fees which shall be collected or received by the board, or any officer thereof in his official capacity, shall be paid into the city treasury monthly, together with all penalties which shall be recovered for the violation of any regulation of the board. The president and secretary shall have full power to administer oaths or affirmations in any proceeding or investigation touching the regulations of the board, but shall not be entitled to receive any fee therefor.

SECTION 4. The said board of health shall have power, and it shall be their duty, to make and enforce all needful rules and regulations to prevent the introduction and spread of infectious or contagious diseases, by the regulation of intercourse with infected places, by the arrest, separation and treatment of infected persons and persons who shall have been exposed to any infectious or contagious disease, and by abating and removing all nuisances which they shall deem prejudicial to the public health; to enforce vaccination, to mark infected houses or places, to provide rules for the construction and maintenance of house drains, waste and soil pipes, and cess-pools, and to make all such other regulations as they shall deem necessary for the preservation of the public health. They shall also have power, with the consent of councils, in case of the prevalence or apprehended prevalence of any contagious or infectious disease within the city, to establish one or more hospitals, and to make provision and regulations for the management of the same. The board may, in such case, appoint as many ward or district physicians and other sanitary agents as they may deem necessary, whose salaries shall be fixed by the board before their appointment. It shall be the duty of all physicians practicing within the city to report to the secretary of the said board of health the names and residences of all persons coming under their professional care afflicted with such contagious or infectious diseases, in the manner directed by the said board.

SECTION 5. The said board of health shall have power as a body or by committee, as well as the health officer, together with his subordinates, assistants and workmen, under and by order of said board, to enter at any time upon any premises in the city, upon which there is suspected to be any infectious or contagious disease, or nuisance detrimental to the public health, for the purpose of examining and abating the same; and all written orders for the removal of nuisances issued to the said health officer by order of said board, attested by the secretary, shall be executed by him and his subordinates and workmen, and the costs and expenses thereof shall be recoverable from the owner or owners of the premises from which the nuisance shall be



removed, or from any person or persons causing or maintaining the same, in the manner herein provided.

SECTION 6. The said board of health shall have power to create and maintain a complete and accurate system for the registration of all marriages, births and deaths, which may occur within the city, and to compel obedience to the same upon the part of all physicians and other medical practitioners, clergymen, magistrates, undertakers, sextons, and all other persons from whom information for such purposes may properly be required. The board shall make, and cause to be published, all necessary rules and regulations for carrying into effect the powers and functions with which they are hereby invested, which rules and regulations shall have the force of ordinances of the city, and all penalties for the violation thereof, as well as expenses necessarily incurred in carrying the same into effect, shall be recoverable for the use of the city in the same manner as penalties for the violation of city ordinances, subject to the like limitation as to the amount thereof.

SECTION 7. It shall be the duty of the board of health to submit, annually, to councils, before the commencement of the fiscal year, an estimate of the probable receipts and expenditures of the board during the ensuing year, and councils shall then proceed to make such appropriation therefor as they shall deem necessary; and the said board shall, in the month of January of each year, submit a report in writing to councils of its operations for the preceding year, with the necessary statistics thereof, together with such other information or suggestions relative to the sanitary condition and requirements of the city as it may deem proper, and councils shall publish the same in their official journal. It shall also be the duty of the board to communicate to the State Board of Health copies of all its reports and publications, together with such sanitary information as may, from time to time, be required of said State Board.

---

## V.

This bill passed the House April 12th, but was negatived by the Senate committee to which it was referred.

### AN ACT

To provide for the employment of an additional clerk in the Department of Internal Affairs.

WHEREAS, In an act entitled "An act to establish a State Board of Health for the better protection of life and health, and to prevent the spread of contagious and infectious diseases in this Commonwealth," approved the third day of June, Anno Domini one thousand eight hundred and eighty-five, it is directed that "the clerical duties and

safe keeping of the bureau of vital statistics thus created shall be provided for by the Secretary of Internal Affairs;

AND WHEREAS, The clerical force of the Department of Internal Affairs is fully occupied in the discharge of duties already assigned by law to that department; therefore,

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same,* That the Secretary of Internal Affairs be, and he is, hereby authorized to employ an additional clerk, who shall perform the duties of registration clerk in the bureau of vital statistics under the supervision of the Superintendent of Registration of Vital Statistics, and who shall be paid the same salary and in the same manner as the other clerks in said department.

---

## VI.

---

This bill passed the House, but was negated by the Senate Committee.

### A SUPPLEMENT

To an act entitled "An act to establish a State Board of Health for the better protection of life and health and to prevent the spread of contagious and infectious diseases in this Commonwealth."

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same,* That it shall be the duty of the prothonotary of each county, once in each year, at such time as the Superintendent of Vital Statistics may designate, to return to the Central Bureau of Vital Statistics at Harrisburg, a certified copy of the register of practitioners of medicine and surgery in his office, made in accordance with the provisions of the act entitled "An act to provide for the registration of all practitioners of medicine and surgery," approved the eighth day of June, Anno Domini one thousand eight hundred and eighty-one, and in accordance with the form prescribed by the Superintendent of Vital Statistics, and for the performance of this duty he shall be entitled to compensation at the same rate as is usually paid for similar services in said county, which shall be allowed and paid by the county commissioners out of the county treasury.

SECTION 2. That it shall be the duty of the clerk of the orphans' court in each county, once in each month, at such time as the Superintendent of Vital Statistics may designate, to return to the Central Bureau of Vital Statistics at Harrisburg, a certified copy of the register of marriages recorded in his office during the month previous, made in accordance with the provisions of the act entitled "An act

relating to marriage licenses, providing for the officers herein indicated to issue licenses for parties to marry," approved the twenty-third day of June, Anno Domini one thousand eight hundred and eighty-five, and in accordance with the form prescribed by the Superintendent of Vital Statistics, and for the performance of this duty he shall be entitled to compensation at the same rate as is usually paid for similar services in said county, which shall be allowed and paid him by the county commissioners out of the county treasury.

---

## VII.

---

This bill passed the House but was lost in the Senate.

### AN ACT

To establish county boards of health for the better protection of life and health, and to ensure the registration of vital Statistics in the several counties of this Commonwealth.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same,* That the State Board of Health shall annually, on or before the second Wednesday of November, appoint in each county in this Commonwealth, a physician, of good standing in his community, who shall be a graduate of a legally chartered medical college, of not less than five years' experience in the practice of his profession, to be the medical officer of health of said county. The medical officer of health shall enter upon the discharge of the duties and assume the powers of his office on the first Monday in January next succeeding his appointment, but within one month after his appointment he shall, by and with the advice and consent of the State Board of Health, appoint a suitable person to be a deputy health officer in each township in the county. The medical officer of health together with the deputy health officers, shall constitute the county board of health.

SECTION 2. As soon as possible after the appointment of the said deputy health officers, they shall meet at the seat of justice of the county on the call of the medical officer of health, and with him shall take the oath prescribed by law for county officers, and shall file the same, certified by the person before whom it was taken, within ten days thereafter, in the office of the clerk of the court of quarter sessions of the same county. Immediately after having taken the oath of office, they shall organize by electing one of their number to be president and, if it seems necessary, by appointing a proper person to be clerk.

SECTION 3. The county board of health shall have the general super-

---



vision of the interests of the health and lives of the citizens of the county under the authority of the State Board of Health, and shall make such rules and regulations as shall ensure entire uniformity in sanitary administration in all the townships under its jurisdiction, and harmony of action in sanitary reforms and public works of a sanitary nature in townships contiguous to one another. It shall have power, and it shall be its duty, to make all needful rules and regulations to prevent the introduction and spread of infectious or contagious diseases, by the regulation of intercourse with infected places, by the arrest, separation and treatment of infected persons, and persons who shall have been exposed to any infectious or contagious disease, and by abating and removing all nuisances which they shall deem prejudicial to the public health; to enforce vaccination; to mark infected houses or places, and to make all such other regulations as they shall deem necessary for the preservation of the public health. They shall also have power, with the consent of the county commissioners, in case of the prevalence or apprehended prevalence of any contagious or infectious disease within the county, to establish one or more hospitals, and to make provision and regulations for the same. The board may in such cases appoint as many physicians as they may deem necessary for the proper care of the sick, whose salaries shall be fixed before their appointment. It shall be the duty of all physicians practicing within the county to report to the deputy health officer of the township in which the sickness occurs, the names and residences of all persons coming under their professional care afflicted with such contagious or infectious diseases, and also the unusual prevalence of any disease, in the manner directed by the said board.

SECTION 4. Said board of health shall have power to create and enforce a complete and accurate system for the registration of all births, deaths, interments and prevalent diseases which may occur within the county, and to compel obedience to the same upon the part of all physicians, midwives, undertakers, sextons and all other persons from whom information for such purposes may probably be required. The board shall make and cause to be published all necessary rules and regulations for carrying into effect the powers and functions with which they are hereby invested, which rules and regulations shall have the force of rules and regulations of the State Board of Health, and all penalties for the violation thereof as well as expenses necessarily incurred in carrying the same into effect shall be recoverable in the same manner as penalties for the violation of rules and regulations of the State Board of Health, subject to the like limitation as to the amount thereof.

SECTION 5. The said board shall meet at least once in every three months, and may also hold such special meetings as the proper and efficient discharge of its duties shall require, at the county seat, and the rules and by-laws of the board shall provide for the giving of

proper and timely notice of all such meetings to every member of the board. The county commissioners shall provide and furnish such apartments, furniture, stationery and fuel as the board may require in the discharge of its duties. Seven members of the board shall at any regular, called or adjourned meeting organize and constitute a quorum for the transaction of business.

SECTION 6. Every deputy health officer shall have and exercise the powers and authority of a constable. It shall be his duty to receive and examine into the nature of the complaints made by any of the inhabitants concerning nuisances or causes of danger or injury to life and health within the limits of his township; to enter upon or within any place or premises where nuisances or conditions dangerous to life and health are known or believed to exist and to inspect and examine the same, and all owners, agents and occupants shall permit such sanitary examinations. Whenever in his opinion the conditions so investigated constitute a nuisance, prejudicial to the public health, he shall report the same to the medical officer of health of the county, who, at his discretion, shall issue to said deputy an order for its abatement, which he shall, after due warning and notice, proceed to enforce, employing such assistants and workmen, and using such reasonable force as may be necessary to execute the same. The expense of such abatement and removal shall be a charge upon the occupant of the premises or the person who has maintained the nuisance, to be collected in the same manner as any county tax, and if not paid within a certain specified time, shall become a lien upon the property and premises. All fees and penalties which shall be collected or received by the board or any officer thereof, in his official capacity, shall be paid into the county treasury monthly. Each deputy health officer shall receive an annual salary, the amount of which shall be determined by the county commissioners, and which shall be allowed and paid him out of the county treasury in the same manner that the salaries of other county officers are paid.

SECTION 7. The medical officer of health shall be the secretary and executive officer of the board, and shall have all the powers and privileges of a member of said board except in regard to voting upon matters relating to his own office and duties as secretary. He shall receive an annual salary, the amount of which shall be determined by the county commissioners and which shall be allowed and paid him out of the county treasury in the same manner that the salaries of other county officers are paid. He shall keep accurate minutes of the proceedings of the board and shall conduct its correspondence. He shall register in separate books, to be provided for his use by the county commissioners, the returns made to him by the deputy health officers of the several townships, of the births, deaths, interments and prevalent diseases which may occur within said county and of all complaints of nuisances, with a statement of the action

---



taken in regard to them. He shall make or cause to be made a monthly abstract of the register of births, deaths, interments and prevalent diseases in accordance with forms furnished by the State Board of Health and shall forward the same to the Secretary of the State Board of Health as soon as possible after the first day of each month following. He shall immediately notify the Secretary of the State Board of Health of the existence of any case of small-pox or Asiatic cholera, or of any epidemic disease, whether affecting human beings or domestic animals, which may occur within the limits of his county. He shall receive and consider complaints of nuisances from deputy health officers and, if in his judgment such complaints are founded on fact, shall, without consulting with the board, issue notices for the abatement and removal of the same. He shall have full power to administer oaths or affirmations in any proceeding or investigation touching the orders and regulations of the board, but shall not be entitled to receive any fee therefor. He shall keep a special account book, in which an entry shall be made of all the fees with penalties received by himself or his deputies and of all moneys earned and chargeable upon the county, and on the first Monday of each and every month shall pay to the treasurer of the county all moneys received during the preceding month, taking duplicate receipts therefor one of which he shall deposit with the auditors as prescribed by law.

SECTION 8. It shall be the duty of the board of health to submit annually to the county commissioners at a stated meeting during the month of January, a statement of the receipts and expenditures of the board during the preceding year; and the said board shall, on or before the first Monday of March, make a report in writing to the county commissioners of its operations for the preceding year, with the necessary statistics thereof, together with such other information or suggestions relative to the sanitary condition and requirements of the county as it may deem proper. It shall also be the duty of the board to communicate to the State Board of Health copies of all its reports, together with such other sanitary information as may be from time to time required by said State Board.

SECTION 9. The jurisdiction of the county board of health or of any of its officers shall not extend to any city or incorporated borough, within the limits of the county, which shall have established its own board of health or appointed its own health officer, unless by special request of the councils of said city or borough or in virtue of specific instructions from the State Board of Health.

VIII.

This bill was not reached.

## AN ACT

To prevent the deposit of the carcasses of dead animals and other noxious matter in certain waters in this State, or upon the surface of any road, street, alley, city lot, public ground, market space, or commons, and providing for the abatement of the nuisance occasioned by such deposit and the punishment for violations of this act.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same,* That it shall be unlawful to put the carcass of any dead animal or the offal from any slaughter house, butcher's establishment or packing houses, or slop or other refuse from any hotel, tavern or private house, or any spoiled meats, or spoiled fish, or any putrid animal substance or the contents of any privy vault, upon the banks of, or into any river, creek or other stream within this State, or upon the surface of any road, street, alley, city lot, public ground, market space, or commons.

SECTION 2. It shall be unlawful for the owner or occupier of any city lot, public ground, market space, or common, to knowingly permit any of the things named in the preceding section to remain thereon to the annoyance of any of the citizens of this State, or neglect or refuse to remove or abate the nuisance occasioned thereby, within twenty-four hours after knowledge of the existence of such nuisance upon any of the premises in this section before mentioned, owned or occupied by him or after notice thereof in writing from any justice of the peace, or constable of any district, or the mayor or health officer of any municipal corporation in which any such nuisance exists, or the Secretary of the State Board of Health.

SECTION 3. A justice of the peace shall have jurisdiction of any offense against the provisions of this act committed within his county. Any such offense shall be punished by a fine of not less than five nor more than fifty dollars. Upon a conviction of any such offense the accused must bury at least three feet under the ground or destroy by fire any of the things named in the first section, which he has placed in any of the waters or places named in such section, or which he has knowingly permitted to remain upon a city lot, public ground, market space, or common, contrary to the provisions of the second section, within twenty-four hours after such conviction, and if he shall fail so to do, the justice shall further fine him not less than ten nor more than fifty dollars.

The State Board of Health or the local health board, health committee or health officer of the place in which such nuisance exists shall have power and authority to remove the same. The cost and expense of such removal shall be assessed upon the property of the person causing or maintaining the nuisance, which assessment, duly certified



by the Secretary of the State Board of Health, the president of the local board of health, the chief burgess of the borough or the health officer of the county, as the case may be, shall become a lien to be collected in the same manner as any other tax.

SECTION 4. All acts or parts of acts in so far as in conflict with this act, are hereby repealed.

---

## IX.

---

This act passed the Senate, but failed in the House.

### AN ACT

Supplementary to an act entitled "An act to establish a State Board of Health, for the better protection of life and health, and to prevent the spread of contagious and infectious diseases in this Commonwealth," approved the third day of June, Anno Domini one thousand eight hundred and eighty-five, amending the sixth section thereof, by providing for the prevention and regulation of the storage and transportation of dynamite, gunpowder and all other explosives.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same,* That section six of an act entitled "An act to establish a State Board of Health, for the better protection of life and health, and to prevent the spread of contagious and infectious diseases in this Commonwealth," approved the third day of June, Anno Domini one thousand eight hundred and eighty-five, which reads as follows:

"SECTION 6. In cities, boroughs, districts and places having no local board of health, or in case the sanitary laws or regulations in places where boards of health or health officers exist, should be inoperative, the State Board of Health shall have power and authority to order nuisances, or the cause of any special disease or mortality to be abated and removed, and to enforce quarantine regulations as said board shall direct. Any person who shall fail to obey, or shall violate such order, shall, on conviction, be sentenced to pay a fine of not more than one hundred dollars, at the discretion of the court," shall be so amended as to read as follows:

SECTION 6. In cities, boroughs, districts and places having no local board of health, or in case the sanitary laws or regulations in places where boards of health or health officers exist, should be inoperative, the State Board of Health shall have power and authority to order nuisances, or the cause of any special disease or mortality to be abated and removed, and to enforce quarantine regulations as said Board shall direct, and to prevent and regulate the storage and transportation of dynamite, gunpowder, and all other explosives in all cases where, in the judgment of said Board, the same shall be dangerous to the lives, limbs or health of the citizens of this Commonwealth. Any

person who shall fail to obey or shall violate such order, shall on conviction, be sentenced to pay a fine of not more than one hundred dollars, at the discretion of the court.

---

X.

---

This bill passed the Senate and was lost in the House.

AN ACT

To prevent traffic in adulterated, impure and unwholesome milk, and to regulate the sale of milk.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same,* That if any person shall expose milk to contamination by the emanations, discharges, or exhalations from persons sick with any contagious disease, such milk being intended for sale, or if any person shall keep cows in a crowded or unhealthy condition, said cows being kept for the production of milk for sale, or shall feed cows so kept for the production of milk for sale upon distillery waste, or upon swill, or upon any substance in a state of putrefication or rottenness, or upon any substance of an unwholesome nature, or if any person shall add water or ice or any other substance or thing to milk purporting to be and exposed or offered for sale or sold as entire, pure and whole milk, or if any person shall remove the cream or any portion thereof from milk purporting to be, and exposed or offered for sale or sold as entire, pure and whole milk, unless such milk from which the cream is entirely or partially removed is sold in the manner provided in section three of this act, the person so offending shall be guilty of a misdemeanor and upon conviction be sentenced to pay a fine of fifty dollars for the first offense, and one hundred dollars for each subsequent offense, and if in either case fines be not immediately paid, by imprisonment for thirty days or until paid.

SECTION 2. If any person shall sell or shall offer or expose for sale or have in possession with intent to sell or offer for sale or if any person shall transport or carry for the purpose of sale any milk which has been rendered adulterated, impure, and unwholesome in the manner described in section one of this act, such person knowing the same to be adulterated, impure, and unwholesome, shall be deemed guilty of a misdemeanor, and shall be subject to the penalties prescribed in the first section of this act.

SECTION 3. If any person shall sell, or shall offer or expose for sale milk from which the cream or any portion thereof has been removed he shall conspicuously exhibit upon the outer surface of the cans,



buckets, cases, or vessels from which such milk is sold or offered or exposed for sale the words "skimmed milk" plainly and legibly marked in letters not less than one inch in height, and shall inform the purchaser that such milk is skimmed milk, unless the same shall have been demanded by the purchaser, and if any person shall violate the provisions of this section, he shall be deemed guilty of a misdemeanor, and shall be subject to the penalties prescribed in the first section of this act.

SECTION 4. Upon trial for a misdemeanor under this act the sale or offer or exposure for sale or the having in possession with intent to sell, or offer for sale, or the transporting and carrying for the purpose of sale, of milk contrary to the provisions of this act shall be *prima facie* evidence of knowledge by the accused of the character of the milk so sold or offered or exposed for sale or had in possession with intent to sell, or transported or carried for the purpose of sale.

SECTION 5. In all cities and boroughs the councils and in counties the commissioners may establish the office of inspector of milk, and fix the salary thereof, and the mayor or burgess of such city or borough or commissioners of such counties shall appoint as an inspector of milk a competent analyst for the term of one year or until the appointment of his successor. The councils may authorize said inspector to appoint one or more deputies, and shall fix their salary, and otherwise provide for the payment of the necessary expenses incurred in taking said samples of milk, and in the publication of analyses as provided in section six of this act.

SECTION 6. The inspectors and their deputies shall have the power to open for the purpose of inspection any can, vessel or package, whether sealed, locked, or otherwise closed, containing milk offered for sale or in transit to or held in possession with intent to sell in the country, city, or borough for which they shall have been appointed, and in every instance shall take a fair sample of the contents thereof without tendering payment therefor, which sample they shall then divide into two parts each part to be put into a separate can, bottle, or package, and sealed or otherwise secured in the presence of the owner of the milk, his agent or employé, or in the absence of such person then in the presence of one or more competent witnesses, the one part to be offered to said owner, his agent or employé or in the absence of such person to be sent to such address within said city or borough as the owner of the sampled milk may have previously designated, or in the absence of such instructions shall retain the same for delivery to the owner of the sampled milk if he shall make application therefor, the remaining part said inspector shall promptly analyze.

SECTION 7. It shall be the duty of each inspector to keep a complete record of his proceedings as inspector, giving a full account of all inspections of milk made by himself or his deputies, including the names of persons, firm or corporation owning or claiming to own the milk so



inspected, together with their place of business or residences, or the railroad station used for shipment, and the results of analysis in each case, which record shall be the property of officers under whose appointment said inspectors shall act.

SECTION 8. Said inspector shall early in each month cause to be once published in a newspaper of general circulation issuing in the city or borough for which he shall be appointed, a full list or bulletin of all producers and dealers from whose milk samples shall have been taken during the previous calendar month, with their residences or places of business, and the results of analysis in each case attached, together with such notes as shall indicate so far as possible the extent to which any of the samples may appear to be adulterated or otherwise altered, within the meaning of this act.

And shall simultaneously furnish like lists or bulletins to all newspapers that will, free of cost, publish the same.

SECTION 9. The inspector, when he shall have evidence that the provisions of this act have been violated, shall cause the person or persons guilty of such violation to be prosecuted before any court of competent jurisdiction.

SECTION 10. In all cities or boroughs in which inspectors of milk shall be appointed every person who shall convey milk in wagons, carts or other vehicles, or who shall keep milk in salesrooms, stands or stores, the same being carried or kept for the purpose of sale therefrom at retail, shall annually on the first day of May, or within thirty days thereafter, be licensed by the proper officers duly authorized by law to grant and issue licenses to sell milk within the limits of said counties, cities or boroughs, and shall pay to said officers duly authorized by law to receive and receipt for the money paid for such licenses, the sum of five dollars for each wagon, cart, or other vehicle, and for each salesroom, stand or store from or in which milk is actually retailed; said officers so authorized by law shall furnish a separate license for each wagon, cart, or other vehicle, and each salesroom, stand or store so licensed, said license shall be conveyed with each wagon, cart, or other vehicle, and kept in each salesroom, stand or store, and exhibited upon demand of said inspectors or their deputies. Said officers shall at the time of issuing licenses furnish each licensee with a printed copy of this act.

Licenses shall be issued only in the name of the owners of wagons, carts or other vehicles, and in the names of the business proprietors of salesrooms, stands or stores, and said licenses shall, for the purposes of this act, be conclusive evidence of ownership.

No license shall be sold, assigned or transferred.

All licenses shall record the names and places of business or residences, and the license number of licensee.

All licensees before engaging in the sale of milk shall cause their names, and places of business or residences, and their license numbers

to be legibly marked and exhibited on each of the outer sides of all wagons, carts or vehicles by them licensed, and cause their names and license numbers to be legibly and conspicuously posted in all salesrooms, stands or stores by them licensed, and said marking or posting shall be continually maintained in a conspicuous and legible condition.

SECTION 11. If any person shall transport or sell milk without a license contrary to the provisions of section ten of this act, or if any person whatsoever shall obstruct the inspector or his deputies in the performance of their duties, or shall refuse to allow the inspectors or their deputies to take the quantities of milk which shall be required for the purpose of analysis as aforesaid, such person shall be guilty of a misdemeanor and be liable to the penalties prescribed in section one of this act.

SECTION 12. An act entitled "An act to prevent the adulteration of milk and to prevent the traffic in impure and unwholesome milk," approved May twenty-five, one thousand eight hundred and seventy-eight, is hereby repealed.

---

## APPENDIX E.

---

### REPORTS OF CONFERENCES AND CONVENTIONS.

---

1. Report of a Conference on Infectious Diseases of Domestic Animals, by Benjamin Lee, M. D., Secretary.
  2. Hygienic report of the Ninth International Medical Congress.
  3. Report of the Secretary as Delegate to the National Conference of State Boards of Health.
  4. Proceedings of the National Conference of State Boards of Health at the fourth Annual Meeting, held at Washington, D. C., September 7, 1887.
- 

#### I. REPORT OF A CONFERENCE ON INTER-STATE NOTIFICATION OF INFECTIOUS DISEASES OF DOMESTIC ANIMALS.

---

By invitation of the Secretary, Dr. C. N. Hewitt, Secretary of the State Board of Health of Minnesota and State Veterinarian Bridge of Pennsylvania met at the Executive office on Saturday, September 10, 1887, to discuss the most efficient and practicable methods of dealing with pleuro-pneumonia, glanders and other infectious diseases of domestic animals, and of formulating a system of mutual notification between the two States represented, whenever any serious outbreaks of this nature should occur, pleuro-pneumonia being the affection most particularly emphasized. The discussion took a wide range and was deeply interesting and instructive. The result will be a mutual confidence between the authorities of this State and not only that of Minnesota, but of all the great north-west, in regard to the precautions taken in both sections and the desire to protect each others territory as well as their own from these destructive visitations.

Respectfully submitted.

BENJAMIN LEE, M. D.,  
*Secretary.*

#### II. Hygienic Report of the Ninth International Medical Congress.

[Before the Section on General Medicine.]

Dr. Josef Körösi, director of the Communal Statistics of Budapesth, Hungary, read a paper on

THE PREVENTIVE POWER OF VACCINATION,  
with a critical review of the vaccinal statistics. After gathering all the different modes of argumentation used up to the present time

to attack or to defend the protective power of vaccination, he arrived at the result that the statistical basis of these proofs is much weaker than is generally supposed by men of science who could not enter into an examination of the value of the different statistical methods. Even when the direct proof could be furnished, and even when we would find in this way that the morbidity or mortality of the non-vaccinated is the greater one, the anti-vaccinators reply that the whole of the non-vaccinated represents a weaker totality, consisting of the poorer elements, the sick and weaker children; and that this totality is naturally more exposed to get any sickness, but not in consequence of the lack of vital powers—an argument which threatens to subvert all vaccinal statistics.

Mr. Körösi shows us that this difficulty can be settled. If we knew what is, for instance, the general lethality (Mr. Körösi distinguishes between mortality and lethality. Mortality is the chance for each living person to die; lethality is the chance for those who are already sick to die. The two notions are widely different, but, notwithstanding, often confounded. The mortality of small-pox, for instance, rose to one per cent., the lethality might rise to sixty or seventy per cent.) of the non-vaccinated, we could learn whether their special small-pox lethality is greater; this difference ought to be attributed exclusively to the lack of vaccination. But to ascertain the general lethality of the vaccinated and non-vaccinated people, it would be necessary that the hospitals should state, not only for the small pox patients, but also for each case of sickness—even the surgical cases not excluded—whether they were vaccinated or not. This innovation was introduced in 1886, at the instigation of Mr. Körösi, in nineteen hospitals of Budapesth and of provincial cities in Hungary. Here the results of the first year's observation, embracing more than twenty thousand cases, showed the general lethality of the vaccinated patients to be eight per cent., and that of the non-vaccinated thirteen per cent.

Thus the assertion of the anti-vaccinators, that among the non-vaccinated the lethality is probably a greater one, is found to be true. But among the small-pox patients the lethality of the non-vaccinated rose to 6.66 per cent.; the lethality of the non-vaccinated should thus represent about ten per cent., but in fact that lethality is not less than 49.68 per cent. No doubt it was wrong to regard the whole of this increase (nearly eight hundred per cent.) as the consequence of the non-vaccination. The result is a product of two factors; at one hand of the weaker constitution of the non-vaccinated, and on the other hand of the lack of vaccination. Knowing now the value of one factor, we can calculate what has to be attributed to the other. So we can state that for the non-vaccinated small-pox patients the chance of dying is raised *exclusively by the lack of vaccination* to five hundred per cent.



The same observation made it possible to state also in what degree the morbidity of the non-vaccinated is raised. The result is that the lack of vaccination causes three and a half times more cases of small-pox.

To apply the new method on the mortality, it would be required that at each case of death—and not, as is usual, only at the deaths caused by small pox—it should be stated whether the person was vaccinated or not. This new regulation has been introduced at Budapest since 1886; the coroners have to inquire the fact regarding vaccination in each case of death. As also nine other Hungarian cities agree to introduce this new regulation, the observations of Mr. Körösi embrace a population of 717,195 persons. The results of the first year show that the chance to die by small-pox is raised by six hundred per cent. for each non-vaccinated person exclusively in consequence of the lack of vaccination. This new and fruitful method of investigation has finally been applied also to the very important problems of inoculation of syphilis, erysipelas, tuberculosis, etc. In the ordinary way of vaccination statistics, it is nearly impossible to answer this question. If a man who has been vaccinated in his childhood later gets tuberculosis, how could we know whether his sickness had been caused by vaccination or any other cause? But the new method furnishes the answer. If tuberculosis, syphilis, etc., have been caused by inoculation we ought to find among the vaccinated people more cases than among the non-vaccinated. It is now found that—at least in this first year of observation—there was to be found no influence of vaccination upon syphilis or tuberculosis. But what he found was that for the children the number of the cutaneous diseases is raised by vaccination, but only by thirteen per cent. Making up now the balance of vaccination and counting its benefits on the credit, its damages on the debit side, it is found that among a population like that of the United States the vaccination would save annually 120,000 lives, while the number of children dying from cutaneous diseases, etc., caused by vaccination, might make 300, so that the balance is an extremely favorable one. Vaccination is an operation, but who would prohibit a life-saving operation where the chances of danger are so extremely few as above mentioned?

Mr. Körösi finished his paper with the remark that after having now furnished direct answers on the protective power of vaccination, we might safely extinguish doubt about the blessings of Jenner's important discovery, which, after the ingenious generalizations of Pasteur, has lost the character of an inconceivable and quite extraordinary phenomenon, and which must be regarded as one of the most beneficial results of happy empiricism and science.

Dr. C. A. Leale, of New York, expressed himself as greatly interested in the paper, especially for the valuable statistics, evidently the result of so much patient labor. He referred to a commission which



had been appointed under his supervision to inquire after the health of the sick children in New York, with the result that there was not a case reported which had had small-pox. This he attributes to the good virus and enforcement of vaccination among all classes.

Twenty years ago, he was called to investigate two cases of death alleged to be the result of vaccination, but these were evidently due to erysipelas due to a scratch; this was rendered more positive, as others were vaccinated with the same virus without harm. He once saw, at the college of physicians and surgeons, a child where it was certified that the child was suffering from the secondary stages of syphilis due to vaccination.

Dr. W. M. Whitmarsh, of England, inquired what virus was used, humanized or bovine.

Dr. Körösi said it depended upon the physician.

Dr. John Lynch, of Baltimore, said that it was only cranks who will contend that vaccination does not prevent and modify small-pox. Animal virus will always be safe and ought always to be used.

Dr. William Waugh, of Philadelphia, said that statistics ought to be read in the light of personal experience. In a few cases abscesses would occur. He knew of one case of destruction of the eye from the child transferring the matter into it from the arm.

A vote of thanks was extended to Dr. Körösi, and a committee appointed to consider his paper.

Mr. Körösi said that statistics reported against vaccination were greatly falsified.

Dr. W. M. Whitmarsh, London, England, read papers

#### ON VACCINATION AND ON PASTEUR'S TREATMENT.

He first considered the subject of vaccination, giving a *résumé* of its history from the time of Jenner. He was not in a position, even from a very large experience, to state that vaccination is a preventive against variola, although many believe it to be so. Vaccination does, however, lessen the liability, even though it may not give a complete immunity from the disease. Forty years ago sixty per cent. of the people in England were to be seen pitted by small-pox, while at the present day there is hardly one per cent.

In England it is compulsory that all children over three months old shall be vaccinated. Such a law being in vogue, it is the duty of the State to use special care in the selecting of good lymph. This they evidently have not done, the authorities at present depending upon humanized virus, which they deal out gratuitously to the poor.

That vaccination may transmit disease is conclusively proven in the case of Dr. Cary, who syphilized himself in endeavoring to prove that such a transmission was impossible. Again, there were the instances of the large number of children in Sweden, and the body of soldiers in Algiers, who were similarly infected.

Educate people up to the fact that vaccination, when properly performed, is a good measure, and then their common sense will make them adopt it. During the year ending September, 1885, there were in England 2,806 persons prosecuted for refusing to comply with the law and be vaccinated.

As to how many punctures should be made, and the frequency with which the vaccination should be repeated, there is a variety of opinions. It seems probable that seven years is the longest time allowable before revaccinating.

#### PASTEUR'S METHOD.

In the paper entitled "Pasteur's Treatment" he reviewed very elaborately the method and principle involved in the preparation of the virus for inoculation. The various instruments used were presented, and their use explained; also a solution, hermetically sealed, containing the prepared virus. Sterilized beef-tea is the vehicle used to contain the virus.

As to Pasteur, he is undoubtedly a first-class scientific chemist, but doubtless he knows little of the art of surgery or the science of medicine. So far as his operations are directed he is constantly changing his methods, thereby showing that he is somewhat doubtful of his stand-points.

It is proved without doubt that dogs shut up in a room and given but a small quantity of water will go mad. In the cases presented and operated upon in Pasteur's laboratory it is extremely doubtful as to whether the patients have had hydrophobia, and consequently it is difficult to determine the curative efficacy of his inoculations. Pasteur originated a disease in rabbits, which he called rabies. It is important, since some of his cases have been fatal, that the disease be not originated by this process of treatment in a person supposed to be, though not actually, suffering from the disease.

There were cases in which Pasteur's treatment had failed, even in a case in which there had been no delay in coming under the treatment.

The only way to settle the question is by the means employed fifty years ago in reference to small-pox, and that was upon convicts, allowing them their choice between their sentence and becoming the subject of experimentation.

It is also necessary to enforce more stringent laws in reference to dogs. They ought to be registered, muzzled, and more carefully looked after by examining veterinary surgeons.

Great credit is due to Pasteur for his earnest labors; and it is to be hoped that, if he has not already, he may eventually make a new discovery.

Dr. C. A. Leale, New York city, expressed his great interest in the papers, and spoke on the latter. As medical officer for several large



benevolent institutions for sick children he had coming under his observation from 18,000 to 20,000 sick children annually. These children were sent from all parts of the city, and all were carefully examined by competent medical men. As these children are only the sick ones of the families, they represent the number taken from at least 100,000 children in the city and surrounding places. He had never seen, or had reported to him, a single case of hydrophobia, although hundreds of these children had at different times been bitten by dogs. He had had similar experience in dispensary practice.

He is convinced that much harm has been done by unnecessarily exciting those bitten. It is to be sincerely hoped that the profession will not, with our present knowledge, resort to Pasteur's method of inoculation.

Dr. Wm. Welch, Philadelphia, Pa., said: I believe vaccination possesses the power of absolutely preventing small-pox. To be entirely free from danger it must be recently and properly done, and under such circumstances he had never seen any bad result. In his hospital experience he had had 5,000 cases come under his observation, and after vaccination he allowed attendants to wait upon the sick patients without their contracting the disease. Humanized virus is preferable, especially such as has been long humanized through several inoculations. It is well, with long humanized virus, to make several inoculations, as virus thus attenuated does not make so profound an impression.

As to durability, it does run out. It was noticeable that among the cases admitted there were no, or very few, children brought in with the disease who had been vaccinated. One of these died.

The dangers of vaccination are two: syphilis and erysipelas—the latter often caused by carelessness on the part of the physician.

[Before the Section on Public and International Hygiene.]

Dr. J. A. S. Grant (Bey) of Cairo, read a paper with the title:

#### THE HISTORY OF HYGIENE IN MODERN EGYPT,

in which he discussed the methods of hygiene as practiced by the Egyptians under the Viceroy Mohammed Ali and under the Khedive Tewfik Pasha, and as influenced by English dominion; to this he added some critical remarks and practical suggestions.

Dr. Grant also read a paper,

#### DENGUE IN SYRIA,

written by Dr. John Montabet, in which and also from the discussion, it appeared that there was no essential difference as it occurs in that country and in Texas.

**THE RELATION OF STATE MEDICINE TO MEDICAL JURISPRUDENCE**

was the title of a paper read by Dr. W. L. Schenck, of Boise City, Kansas.

Dr. Richard H. Day, of Baton Rouge, La., read a paper in which he made

**A REPORT OF AN INQUIRY INTO THE FACTS RELATING TO THE EFFECTS OF OVERFLOW OF THE MISSISSIPPI RIVER.**

The paper contains facts and deductions obtained by addressing letters of inquiry to five hundred physicians residing in Southern localities. It shows (1) that overflows, as a general rule, are injurious to the public health; (2) that they are more or less injurious according as the inundations are late or early in the season, and whether of long or short duration; (3) that their evil effects upon health are lessened or entirely antagonized by good natural or artificial drainage, and by copious showers of rain occurring during the period of subsidence of the waters; (4) that rich culture is inimical to health only by reason of the improper and insanitary manner of its cultivation; (5) that, as a rule, it is perhaps true that the colored race is less susceptible to the injurious effects of overflows, and of marshy and malarial soils, than the white race. The writer then advises:

*First.* The use of rain-water, stored in large cisterns, both for drinking and cooking purposes.

*Second.* That all swamp and wet soils subject to overflows, before being cultivated or settled upon, be cleaned of trees, underbrush, etc., to admit freely the sun's rays and the free circulation of the winds, and that a thorough drainage be effected, so that rapid drainage and drying of the soil be not impeded.

*Third.* That in the culture of rice, the common plan of keeping the fields covered for long intervals with stagnant water should be avoided, and that, in lieu thereof, frequent irrigation with fresher and purer water should be adopted, the growing crop being supplied thus as often as needed, and ditches so constructed as to let off the superincumbent water rapidly.

*Fourth.* That to promote the health of laborers and residents in the river-deltas and low-lands the dwellings should be not less than four feet from the ground, the floors laid tight, and the doors and windows arranged to afford free ventilation, with galleries on all sides wide enough to prevent beating rains from wetting the rooms; that the houses should be erected on elevated ridges, so that water will not settle under or around them; that only a few shade trees be allowed to grow to break the force of the direct rays of the sun, and all brush and undergrowth be removed, so as to facilitate the free movement of currents of atmosphere.

Finally, the writer advises the importance of rigid cleanliness of



person and surroundings, and strict observance of general sanitary rules. The paper further showed that under improved methods of rice culture and management of lands subject to overflows, the frequency and virulence of diseases incident to these localities had been notably diminished.

[Section on Climatology and Demography.]

#### VITAL STATISTICS.

The following resolutions, submitted by the president of the section on climatology and demography, were discussed and after verbal amendments, unanimously adopted:

*Resolved*, That in the opinion of the Section on Medical Climatology and Demography of the Ninth International Medical Congress, assembled in the city of Washington, September 5-10, 1887, it is important there should be established in every country, a national department, bureau, or commission for the record of vital statistics upon a uniform basis, to include not only accurate returns of births and deaths, but the results of collective investigation by government officials of facts bearing upon the natural history of disease as manifested among men, women, and children separately, especially with regard to climatic and other discoverable causes of the several forms of disease—race, occupation, and residence being included—that necessary preventative measures may be determined and enforced for the preservation of the public health.

*Resolved*, That the Secretary General be requested to have the expression communicated to the several governments.

Dr. Charles Denison, of Denver, Col., read a paper on

#### THE PREFERABLE CLIMATE FOR PHTHISIS.

The paper was elaborately illustrated by maps, diagrams, and tables. Dr. Denison believes that the climate to be preferred for the great majority of consumptives in the United States varies from between fifteen hundred feet elevation in the north in winter to ten thousand feet in the southern portion in summer. Certain contra-indications exist against sending consumptive patients to high altitudes. The most prominent of these are advanced age of the individual; an excitable, nervous temperament; valvular lesions, with rapid action of the heart; marked and extensive emphysema; pneumothorax and hydro-pneumothorax; active pneumonia or hæmoptysis; high bodily temperature; extensive involvement of lung-tissue, and similar conditions.

He takes the affirmative side of the following five divisions named in the order of their relative importance: (1) Dryness as to moisture; (2) coolness or cold preferable to warmth or heat; (3) rarefaction as opposed to sea-level pressure; (4) sunshine as opposed to cloudiness; (5) variability of temperature as opposed to equability.



Dr. John William Moore, of Dublin, Ireland, then read a paper on

THE SEASONAL PREVALENCE OF PNEUMONIA.

The conclusions—pneumonia has claims to consideration as a specific fever on the following grounds:

1. Its not infrequent epidemic prevalence, which is beyond dispute.
2. Its proved infectiveness.
3. Its occasional pythogenic origin in many cases.
4. Its mode of onset or "invasion," which exactly resembles that of recognized specific fevers.
5. The appearance of constitutional symptoms before the development of local signs or symptoms.
6. The critical termination of the febrile movement in uncomplicated cases.
7. The presence of local epiphenomena in connection with the skin, as herpes, taches bleuâtres and desquamation.
8. The development of sequelæ in some cases, such a nephritis, followed by renal dropsy and other conditions.
9. The discovery of a probable pathogenic bacillus, to which analogy points as pathognomonic.

Dr. Moore concludes his paper in these words: "The day is seemingly not far distant when we shall speak of pneumonic fever in precisely the same way as we use the term enteric fever at present; that is, to signify a zymotic or specific blood disease, manifesting itself after the lapse of a certain time—the period of incubation—by physical phenomena, objective and subjective, connected in this instance with the lungs."

THE RELATIONS OF CERTAIN METEOROLOGICAL CONDITIONS TO ACUTE DISEASES OF THE LUNGS AND AIR PASSAGES.

Dr. Henry B. Baker, of Lansing, Michigan, read a paper on the above subject, which was illustrated with diagrams that showed curves for influenza, tonsillitis, croup, bronchitis and pneumonia, which follow the curve for atmospheric temperature with surprising closeness.

He suggests that the explanations of the causation of these diseases has not been grasped before because one of the principal facts has not been apprehended, namely, the fact that cold air is always dry air; on the contrary, it has been generally stated that when these diseases occur the air is cold and damp. He explains that while the cold air is damp relatively, it is always absolutely dry, and he thinks that its bad effects on the air passages are mainly through its drying effects, which can best be appreciated by reflecting that each cubic foot of air inhaled at a temperature of zero, Fahr., can contain only one-half grain of vapor, while when exhaled it is nearly saturated at a temperature of about 98° F., and therefore contains about eighteen and one-half grains of vapor, about eighteen grains of which have been ab-

stracted from the air passages. Thus cold air, falling upon susceptible surfaces, tends to produce an abnormal dryness which may be followed by irritation and suppuration. He claims that coryza is sometimes so caused. Under some conditions the nasal surfaces are not susceptible to drying, the fluids being supplied in increased quantity to meet the increased demand made by the inhalation of cold air. In that case an unusual evaporation of the fluid leaves behind an unusual quantity of non-volatile salts of the blood, such as sodium chloride, and an unusual irritation results; he thinks influenza is the name commonly given to this condition.

The effects which the inhalation of cold air have on the bronchial surfaces depend greatly upon how the upper air-passages have responded to the increased demand for fluids; because, if they do not supply the moisture, it must be supplied by the bronchial surfaces; in which case bronchitis results. Finally, if the demands for moisture made by cold air are not met until the air-cells are reached, pneumonia is produced.

He refers to statistics which he has published, showing that even the rise and fall of such contagious diseases as scarlet fever, diphtheria and small-pox follow the same laws shown to control in the acute diseases of the air-passages, and he offers the explanation that the irritations and exudations in the air-passages, caused by the inhalation of cold dry air, supply a nidus for the contagia, and are thus the predisposing causes of those diseases. As to whether or not pneumonia is a contagious disease he offers no evidence except that nearly all of the phenomena seem to be accounted for without the necessity of supposing a special contagium. For the abnormal accumulation of the non-volatile salts of blood through evaporation of the fluids in the air-cells, so as to cause inflammation and exudation, time is required; therefore, he does not believe that a sudden and short exposure to cold can ordinarily produce pneumonia, except the short exposure follow or precede somewhat prolonged inhalations of cold dry air; although he thinks that lobar pneumonia may have just that causation, the reason for the chill and for the limitation of the area of the exudation being the disturbance of the nervous equilibrium associated with the more or less complete paralysis of the small blood vessels in that part of the lungs supplied by one particular nerve, some or all the endings of reflexions of which have been suddenly exposed to the enervating influence of warmth following the exposure to cold.

[Before the Section on Dermatology and Syphilography.]

Dr. William Welch, of Philadelphia, read a paper on

#### VACCINATION DURING THE INCUBATION PERIOD OF VARIOLA.

The author endeavored to show that vaccination during the incubation period of variola has, at least in his own hands, given gratifying

results, preventing or modifying the small-pox eruption. The contrary view he believes to be unsupported by facts and not tenable.

Vaccination during the initial stage is valueless. If it be performed very early in the incubation stage it exerts a modifying influence and may prevent the attack altogether.

Vaccinia does not begin to exert its effect until the formation of the areola about the vesicles.

It must not be long delayed after the contagion has been received in the system if favorable results are expected. The character of the vesicle has much to do with the protection secured. When the vesicles are imperfectly formed or retarded their efficacy is to be doubted. Animal lymph is too unreliable. Fresh, eight-day lymph, from a typical vaccine vesicle, is to be preferred.

By numerous insertions of the virus we are more sure of good results. He has no doubt the process of vaccinia is hastened by multiple insertions.

He has made observations upon one hundred and forty-four cases, from which he has been led to believe that vaccination in the incubation period gives a certain immunity from variola.

Dr. Cundell Juler, of Cincinnati, Ohio, said, he believed that the lymph from the vesicle itself gave an immunity which the crust did not, and when used he did not consider revaccination necessary, but with the crust it was. The lancet should be kept scrupulously clean.

Dr. Rogers Parker, of Liverpool, England, a public vaccinator for the city of Liverpool, said that in the large cities of England human lymph was usually employed. Large vaccination stations were established, to which the parents are required to bring their children at certain times, and the children vaccinated the previous week returned upon this day so that there was always an abundance of vesicles from which to choose in vaccinating the others. Revaccinating is not compulsory, but was usually done in schools and public bodies at about the age of fourteen.

Dr. Gottheil, of New York, said that he had frequently noticed a fungating sore about two weeks after vaccination, which he had regarded as the exuberant granulations of a weak ulcer. With some sets of lymph it always appeared, and with others never.

Dr. Keller, of Hot Springs, Ark., related an incident of war times. He was in charge of a hospital on the southern side. An epidemic of variola broke out. A supply of lymph was received, with instructions that it came from the north, and was suspected of being poisoned. Such stories were then current. He decided to use it, and, to avoid error, divided each point, vaccinating a citizen with one part and a soldier with the other. Nine-tenths of the soldiers had unhealthy sores following the operation, but none of the citizens, showing that



they were due to the scorbutic condition of the soldiers, and not to impure virus.

Dr. Yeamans, of Detroit, Mich., said his belief in the protective power of vaccination, after exposure had occurred, grew yearly less and less. He had had considerable experience in the matter, and thought we lose sight of the many other influences brought to bear which may modify the case under observation.

Dr. Lathrop, of Dover, N. H., believed that he had seen vaccinia take the place of small-pox.

Dr. Robinson, the president, asked why, if vaccinia depended on micro-organisms, which multiply so rapidly, more than one point of inoculation was necessary?

Dr. Welch, in closing, said he had been skeptical in regard to the necessity for the multiple inoculations, and believed one typical cicatrix gave as good protection as many.

Animal virus, or virus of recent humanization, gives a more durable protection. That of long humanization produces a more superficial scar, and deaths were more frequent in those showing superficial scars. He does not believe in life-long protection of vaccination. The ulcers mentioned by Dr. Gottheil he thought were only found after animal lymph had been used. It is not true vaccination and gives no protection.

In the SECTION ON PUBLIC AND INTERNATIONAL HYGIENE, the president read a paper from Dr. B. W. Richardson, of London, England, on

#### THE GROWTH OF PREVENTIVE MEDICINE IN GREAT BRITAIN.

Dr. Domingos Freire, of Rio de Janeiro, Brazil, read a paper which was translated by the French secretary, Dr. R. LeMonnier, of New Orleans, La., on

#### VACCINATION IN YELLOW FEVER,

the tenor of which was that the disease can be prevented by inoculation with attenuated virus. The paper was accompanied by microscopic specimens of the microbe of yellow fever.

Dr. Freire being asked what was his theory concerning the attenuation of the virus of yellow fever, answered, by oxidation through the red corpuscles of the blood, and the proper or improper medium into which it is placed; but, he added, all this is *as yet* only conjecture.

Dr. Bailhache, marine hospital service, asked if vaccination in one family arrested the progress of the fever in that family?

Dr. Freire answered in the affirmative, stating that in families of ten and fifteen members, living in *one hut*, if vaccination was practiced after the outbreak of the fever among the members not yet affected, that this arrested the further progress of the scourge; whereas, where it was not practiced they all were stricken down with the fever and many, if not all, died.



A translation of a paper by Tomassi Crudeli, of Rome, Italy, on  
FACTS AND THEORIES RELATING TO THE CAUSE, NATURE AND PREVENTION  
OF MALARIAL FEVER,

was read and the bacillus described.

Dr. George T. Maxwell, of Ocala, Fla., then read a paper on

THE INFLUENCE OF CLIMATE ON THE PRODUCTION OF CHOLERA INFANTUM,  
in which he took the position that heat was an essential factor in its  
causation. The general scope of the paper was that the cause of this  
disease is not yet well understood.

THE HISTORY AND PRACTICAL APPLICATION OF STEAM AS A DISINFECTANT.

was the title of a paper read by Dr. A. N. Bell, of New York, which  
was followed by papers on "The Sanitary Inspection of Railroad and  
Passenger Cars," by Dr. Harvey Reid, of Mansfield, O.; "Public  
Hygiene," by Dr. W. C. Cook, of Nashville, Tenn.; "The Clinical  
History of Continued Malarial Fever," by Dr. B. D. Taylor, U. S. A.;  
"A New Method of Detecting Trichina Spiralis in Meat," by James  
A. Close, M. B. (Toronto), F. R. M. S. (London), L. R. C. S. E.

In the section in climatology, the following papers read: "The  
Demographic Effects of Introduced Diseases, and especially Leprosy,  
upon the Hawaiian Races," by Dr. George W. Woods, surgeon United  
States navy; "The Native Treatment of Disease in Syria," by Pro-  
fessor Thomas W. Kay, Syrian Protestant College, Beirut, Syria;  
"Demographic Consideration of the Evils of Artificial Methods of  
Preventing Fecundation and of Abortion in Modern Times," by Dr.  
Thomas M. Dolan, of Halifax, England.

The following is a summary of the paper by Dr. Woods.

Physically and mentally the Hawaiians were considered superior to  
all other Polynesian races. They are described as tall, broad-chested,  
sinewy rather than muscular, with lively expressive faces, noses  
slightly flat and often aquiline, mouth and lips large, splendid teeth,  
and with bodies tattooed. They were intelligent, energetic, kind,  
simple and hospitable.

Civilization, represented principally by the Anglo-Saxon race, en-  
deavored to change or modify the ancient conditions and ways, to im-  
press upon this peculiar people their laws, religion, manners, customs,  
languages, government, opinions and vices. Climate, soil and general  
environment remained the same. Hence the altered conditions in  
their habits and implanted germs of disease must be looked to for an  
explanation of the astonishing demographic changes which a century  
has wrought in the Hawaiian race.

The first effect of the contact with civilization was the inoculation  
of the race with syphilis, which spread so rapidly that it is now often  
declared that the great majority of the adult population is contami-

nated. Then came epidemics of scarlatina, rubeola, pertussis, influenza, and variola, slaughtering thousands; and the native population, which a century ago had been estimated at four hundred thousand, was reduced to forty thousand in 1884. The extraordinary mortality has been attributed to cachectic conditions, venereal disease, poverty, bad food, licentious and vicious indulgences, including ava-drinking, opium smoking and excess in intoxicating liquors. Later leprosy was introduced by the immigration of the Chinese. This disease was spread rapidly by the good-nature, social tastes and hospitality; no fear of the disease, eating from the same dish and passing the pipe or ava-cup from mouth to mouth; cohabiting with infected persons and promiscuous and compulsory vaccination.

The first case of leprosy in a native was recognized in 1848. From the establishment of the leper asylum, on the island of Molakai, in 1865 to 1885, three thousand and seventy-six lepers were received, showing in a measure the great prevalence of this scourge. For the eradication of leprosy the following measures are recommended: Segregation of the infected, cremation of the dead bodies and, so far as possible, all discharges, morbid and faecal, as well as the clothing and bedding, and proper disinfection of the walls, floors and utensils used by the living.

[Before the Section on Diseases of Children.]

Prof. Albert R. Leeds, of Stevens Institute, New Jersey, read a paper on

#### THE NUTRITION OF INFANTS.

He had undertaken to find a true basis for the preparation of artificial food by analyzing eighty samples of human milk. He found that human milk differs from cow's milk chiefly in the proportion and digestibility of the caseine, which is smaller in quantity and more easily digestible in human than in cow's milk. He believed that he had solved the problem by digesting the caseine by a peptogenic powder, easily obtainable and of constant strength, which, with the aid of heat, reduced the caseine in five minutes. Before this cooking, the milk had been first diluted with water in order to lessen the proportion of caseine and then had been enriched by the addition of cream to restore the normal proportion of fat. The results of a very large number of trials, followed by careful observation, encouraged the belief that by this process the artificial feeding of infants had nearly reached perfection.

[Before the Section on Climatology and Demography.]

Dr. Titus Munson Coan, of New York, read a paper on

#### AMERICAN MINERAL WATERS, WITH REMARKS ON CLIMATE.

He discussed the subject under four topographical headings: Springs of the Atlantic, the Southern Central, the Northern Central and the

Western or Pacific States. He called attention to the fact that much of the eastern area of the country was of earlier formation than that of Europe; that, in fact, this part of the New World was, geologically speaking, the Old World and not the New. This fact explained the comparative absence of thermal springs in the east, while the western area, including but thirty-nine per cent. of the total area of the country, yet contained eighty per cent. of the known thermal springs. The range of the American mineral springs in their chemical constitution is very great and their curative waters are as important as those of Europe. In some parts of the country, as in New Mexico and in Nevada, it is often easier to find an alkaline or a saline spring than a stream of pure water. Dr. Coan gave a rapid survey of the subject, mentioning the typical springs which are suitable for the cure of particular diseases, and at which good hotel or other accommodation can be found. He remarked upon the comparative absence of well-appointed *sanataria*, or cures, at the American springs, and the consequent lack of systematic treatment, leading both patients and physicians to underrate the curative value of spring treatment. Climate is an adjunct element of the utmost importance in spring treatment, and the best climate in the country is that of California and Oregon. The climate of the Hawaiian Islands is probably the most equable that is known, at the comfortable range of 70° to 80° F., and those islands are destined to become a health resort for Americans.

Dr. Richard J. Nunn read a paper entitled

A CONTRIBUTION TO THE STUDY OF CLIMATIC AND OTHER PECULIARITIES OF LOCALITIES WHICH DETERMINE EXEMPTION FROM ENDEMIC PLAGUES.

The object of Dr. Nunn's paper was to determine whether the extraordinary exemptions from certain diseases in Savannah are due to any special topographical or sanitary conditions in that city.

Vesical calculus, typhoid fever, typhus fever, puerperal fever, are absent; Asiatic cholera visited the city only once (1866); diphtheria and exanthematous diseases are mild; membranous croup is exceedingly rare; cholera infantum is mild and exceedingly rare; cerebrospinal meningitis has appeared but once in the city; sunstrokes are very unusual; erysipelas is not common; yellow fever has occurred but four times as an epidemic; dengue is infrequent.

The varying death-rate between the white and black races was referred to. Between 1856 and 1860 the black mortality never reached that of the whites, while since the war the death-rate among the negroes has reached double that of the whites. The changed social condition of the black race is supposed to be responsible for this variation. Formerly the negroes were almost entirely exempt from consumption; now they are extremely liable to this disease. The same may be said of syphilis.



The following papers were then read; "The Injurious Effects of Overcrowding in Cities," by Dr. A. Wernich, of Coeslin, Germany; "The Thermometer as a Climatological Instrument," by Maj. Charles Smart, Surgeon United States Army; "Vital Statistics and Medical Geography," by Alfred Haviland, M. R. C. S., of London, England; "Western North Carolina as a Health Resort," by Dr. Henry O. Marcy, of Boston, Mass.; "Therapeutic Influence of the Climate of Southern California," by Dr. P. C. Remondino, of San Diego, Cal., and "Short Notes on the Mineral and Thermal Springs of California," by Prof. W. F. McNutt, of San Francisco, Cal.

#### INOCULATION FOR YELLOW FEVER—HYGIENE OF RAILROADS.

[Before the Congress in General Session.]

Dr. Hamilton reported as having been adopted by the Section in Public and International Hygiene, the following preamble and resolution:

WHEREAS, The whole community has been shocked by the almost daily occurrence of terrible accidents on many of the railroads, causing considerable loss of life, and by the habitual neglect of the most elementary sanitary laws;

Whereas, As this section considers itself in a degree the guardian public health; be it

*Resolved*, That the attention of this Ninth International Medical Congress be respectfully called to this most important question, and that it be requested to use its influence to obtain the necessary reforms.

The following were reported from the same section on Thursday:

After reading by Dr. Domingo Freire, of Rio Janeiro, representative in the Congress of the Brazilian Government, of a paper entitled "Vaccination with the Attenuated Culture of the Microbe of Yellow Fever," with demonstration of the microbe under the microscope, the following preamble and resolutions were adopted by the section.

WHEREAS, Inoculation against yellow fever, if it proves successful after further examination, is calculated to benefit the human race throughout the world; and,

Whereas, The facts presented by experiments of Dr. Domingo Freire afford a reasonable assurance of its protective influence in Rio Janeiro; therefore,

*Resolved*, That this section recommends the coöperative investigation of the results obtained by yellow fever inoculations as a protective against that disease, and that adequate appropriations by the governments represented in this congress be made for that purpose.

*Resolved*, That this action be communicated forthwith for consideration in the general session of the congress.

[Before the Section on Military and Naval Surgery.]

Dr. Joseph R. Smith, United States Army, read an able paper on the question of



## THE BEST RATION FOR THE SOLDIER.

The author endeavored to show the difficulties in the way of ascertaining the exact amount of food that will suffice for the soldier in service, and compared the rations of different European armies, and the diets devised by various observers and experimenters. He showed that in general they err on the side of too great abundance, and briefly alluded to the proportion of carbon and nitrogen which the ration of the soldier should contain. He suggested two rations for armies, whose mean portion of carbon and nitrogen would be about five thousand grains of the former and about three hundred grains of the latter. The paper was illustrated by numerous tables, showing the composition of the rations designed by Moleschott, Playfair, Pettenkofer and Parkes.

In the absence of the author, Dr. John Denis Macdonald, of the British Army, his paper was read by Dr. Lloyd of the Royal Navy. It described

## A NEW FORM OF STRETCHER AND STRETCHER-SLING,

for use in the field, which displayed great ingenuity. The stretcher-sling exhibited possesses the advantage of generally distributing the weight, and of combining the support of the shoulders, loins and hips.

The next paper in order, by Valery Harvard, United States Army, on Stretchers and Stretcher Drill, was read by title.

Dr. Jeffrey A. Marston, of the British War Office, then read an instructive paper on

## HUTS AND HUT HOSPITALS,

as used by the British Army in Egypt and India. He described the construction of these in detail, and offered general remarks upon the subject of camp sanitation. A hut designed by Major Marsh, Royal Engineers, illustrated by plans and sketches, was especially recommended for its portability, durability, facility of erection and removal, and low cost. These huts were constructed with projecting eaves, and a constant change of air is effected by means of ridge ventilation.

The next paper, entitled

## THE CONSTRUCTION OF FIELD HOSPITALS, AS ILLUSTRATED IN THE DEPOT HOSPITALS OF THE ARMY OF THE POTOMAC AT CITY POINT, VA., 1864-65,

was read by Dr. James Collins, of Philadelphia.

Beginning with some general remarks on the great advantages of tents for field hospitals, he described at length the construction and general disposition of the field hospital established in 1864-65 upon the shore of the Appomattox river, one mile from City Point, Va. The hospital occupied an area of two hundred acres, and had a capacity of 10,000 men, and there was treated there the enormous number of

71,223 men. He alluded to the excellent sanitary condition of the camp; of the means adopted for sheltering the tents from the cold winds by the transplantation of small pine trees; the various attempts made to heat the tents by ingenious devices, with more or less success, and the organization of the hospital. In conclusion, the speaker feelingly adverted to a visit of the late President Lincoln to the camp on April 12, 1865.

Dr. W. Varian, of Titusville, Pa., agreed with the writer in recommending tents for hospital use, dwelling upon the fact that by their use the liabilities to the development of enteric fever and other camp diseases was greatly lessened, and that wounds of all kinds, as a rule, do well under canvas. He emphasized the importance of allowing free circulation of air between the tents, and of making the streets of a width of fifty feet, at least. The various methods of heating the camps, spoken of by Dr. Smith, he had also tried and found that open fires made in front of the tents was the most satisfactory.

Dr. Jeffrey A. Marston, of England, read a very able and interesting paper on

#### AGE AND ACCLIMATION OF SOLDIERS IN REFERENCE TO SERVICE.

With regard to age, the author said that a man was best fitted for service, at least in India, between the age of twenty-seven and thirty years. He alluded to the well known fact that the younger men, although capable of enduring great hardships and privations for a short period, are inferior to adults in their powers of endurance in long-continued efforts.

The influence of climate upon the soldier was discussed at length, the speaker more particularly describing the effects of Indian climate upon the newly-arrived soldier. He presented tables showing the mortality among soldiers in Indian service, stating that the prevailing disease among the soldiers is enteric or typhoid fever. This disease may be said to have no geography, extending, as it does, from the Rocky Mountains to the Himalayas. It prevails among Europeans, and is also more frequently fatal during the hot and cold seasons; according to the experience of Indian surgeons, the greatest period of susceptibility lies between the ages of eighteen and thirty years. The liability of death during his first year of Indian service by this disease is greater than by all other diseases.

The British troops suffered greatly in Egypt during the campaign of 1882; in the Soudan campaign of 1884 the troops suffered less from this cause, being daily supplied with condensed water; but in 1885, in spite of this same precaution and of great attention to sanitary details, for some reason still unaccounted for, the sickness from this disease was excessive.

During the first year of the young soldier's sojourn in India he is likely to be attacked by a fatal form of pneumonia. But of the pre-

vailing affections, next to enteric fever, hepatitis heads the list, this disease being very commonly met with. Cardiac disorders come next in the order of prevalence.

In the discussion which followed, Dr. Moses K. Taylor, United States army, stated that his experience agreed with that of Dr. Marston in regard to the prevalence of heart affections among soldiers; this fact, he thought, was not sufficiently recognized by our own surgeons.

Surgeon General C. T. Langridge, of the British army, fully endorsed the views of Dr. Marston with regard to the greater power of endurance of the adult men over the younger; these latter, he said, were constantly breaking down when marching, particularly when exposed to the heat. During the Afghan campaign the troops suffered more from enteric fever than from any other disease.

Dr. Charles Warrington Earle, of Chicago, Illinois, read a paper entitled

**AN INVESTIGATION TO DETERMINE WHETHER THE ABSENCE OF SEWERAGE AND OF WATER-POLLUTION DIMINISH THE PREVALENCE AND SEVERITY OF DIPHTHERIA.**

He presented the results of a study of the causes of diphtheria in localities remote from sewer gas influence in the less thickly populated Western States and Territories. He had received communications from a large number of physicians widely scattered over this great region.

His conclusions are briefly summarized as follows:

1. Diphtheria occurs in the mountains and prairies of the great north-west with the same malignancy as in the east.
2. And with equal virulence in vicinities remote from sewers.
3. When once introduced, the residents of damp sod houses suffer with marked severity.
4. The infection is transported thousands of miles in some unrecognized vehicle.
5. There is abundant testimony that it follows the lines of railroads and steamers, making it imperative to increase the watchfulness and improve the methods of disinfection by railroad and steamboat companies.
6. The desirability of legal enactments obliging people of all classes to recognize their responsibility in regard to the control of contagious diseases.

Dr. W. Foster, of Putnam, Connecticut, reported the apparent connection between diphtheria and exposure to filth in two cases occurring in a town of 7,000 inhabitants, otherwise entirely free from the disease. The boys affected had been playing almost constantly for several days in and about a barn, the cemented cellar of which received



sink water and house refuse as well as manure. Isolation and thorough disinfection prevented the spread of the disease.

Dr. F. E. Waxham, of Chicago, Illinois, believed that diphtheria is due rather to the absence of sewers than to their presence. An impure atmosphere and the presence of filth and decomposing vegetable matter are important factors. Absolute cleanliness, which, of course, includes disinfection, is our best resort.

A paper was read by Professor Victor C. Vaughan, of the University of Michigan, on

#### THE USE OF COWS' MILK IN THE ARTIFICIAL FEEDING OF INFANTS.

Three years ago the writer had isolated the active principle from poisonous cheese. He had named it tyrotoxin. Later he found the same principle in milk, ice-cream, and other articles of food. In experimenting with this poison it was found that its action on the lower animals produced the phenomena of cholera infantum. The symptoms and the *post mortem* appearances were identical. From this it is easy to understand the prevalence of cholera infantum among the very poor, where fresh, wholesome milk is almost unknown.

Not a few medical teachers advise the prohibition of the milk during the progress of cholera infantum, basing their opinions on clinical experience. The same view had been reached by the author of the paper through a long series of laboratory experiments, which show that normal milk inoculated with a small portion of poisoned milk and kept a few hours at the temperature of the body becomes itself poisonous.

Dr. Lewis P. Bush, of Wilmington, Delaware, advocated the use of a young and healthy cow, isolated from others, as in a herd there was a possibility of the contraction of some disease which might injure the milk.

Dr. R. B. White, of Ennis, presented the following rules which his experience had suggested.

1. Test with litmus, and add lime water, if required, before every meal.
2. Limit the amount given in twenty-four hours.
3. Allow only bottles large enough for a single meal, four to six in number; those not in use to be washed in boiling water and kept in an alkaline solution or suspended in the sunlight.
4. The best nursing bottle is a two to six-ounce flask with a rubber nipple drawn over its mouth.
5. Bring the milk to the boiling point, and then keep it on ice.

Dr. A. E. Goodwin, of Rockford, Illinois, was in the habit of insisting on the milk of one healthy cow well fed and stabled; on boiling the milk and keeping it in a sealed glass vessel at a temperature not higher than 60° F., and diluting it with from one-third to one-half of water with, perhaps, the addition of a little malt.



Dr. W. D. Booker, of Johns Hopkins University, stated that there can be little doubt of the injurious effects of micro-organisms upon milk, and the best way to prevent this is not to trust to keeping the milk cool, but to first boil the milk in a flask supplied with a sterilized cotton stopper or a suitable sterilizer. It can thus be set aside and kept for a considerable time in a pure condition.

He believed it was important, in considering the injurious effect of decomposing milk upon children, not to overlook the danger of other injurious articles of food, which we know to be indigestible by children, and which are probably more often the first cause of indigestion.

Dr. J. Lewis Smith, of New York, asked the writer of the paper in regard to the *post mortem* appearances in the animals who had died from the effects of tyrotoxicon, and especially in regard to the mucous membrane, which, in patients dying from cholera infantum, is palid after an illness of twelve or twenty-four hours, and injected if the disease had lasted three or four days.

Dr. Vaughan replied that the mucous membrane of the stomach and intestines had been, as a rule, pale and even almost white. In cases where the animal had survived a longer time, the membrane had been congested, but never in a very marked degree. The president added that, contrary to the opinion of some good observers, he entertained the conviction that the disease is inflammatory in its nature.

Dr. Mariano Semmola, of Naples, Italy, delivered a general address on

#### BACTERIOLOGY AND ITS THERAPEUTIC RELATIONS.

The object of medicine is to cure disease. To cure disease we must know the causes that produce them. The external causes are visible and tangible, but to discover the internal, invisible causes is the aim of medical science. To solve this problem we must employ the true method of solving all problems—the experimental method. Doctors lost themselves in fantastic speculations before this method was known. The wonderful progress of physiology has been made in the light of experimental methods. When morbid conditions had been studied, instead of going on with the same careful and slow research, physicians wanted to hurry on, because they wished simply to cure the sick. To apply the experimental method and, at the same time, go fast is, in the nature of things, impossible. Thus it happened while physicians were making experiments in the laboratory, instead of having patience to master their studies, they came at once to a conclusion. New hypotheses had to be made, and without knowing it they began the same errors that had characterized the medicine of the earlier day. New systems thus came into the field, that were the opposite of the experimental method. If medicine is to progress and

be a science, it must not leave the experimental method, otherwise there will be nothing but renovations of error and loss of time.

The error of the day is, bacteriology considered as the key to all pathology. Bacteriology should be studied, because it teaches what is in the microscopical world, of which we had never dreamed the existence—a world in which man lives, and which is filled with enemies of mankind.

We drink millions of microbes in water, and respire millions in the air. Sometimes these microbes affect us—perhaps killing in a few hours.

When we strive to cure the sick, we must proceed cautiously, because, before there has been a careful demonstration, if we attempt to deduce a remedy, there is danger in doing harm to the sick instead of curing them. This is the great harm modern bacteriology does. Doctors concluded at once that microbes were the cause of disease, whereas, in many cases, microbes are but effects of disease. We ought to reproduce the disease artificially by a microbe before concluding that it is the cause. The experiments made have not given any satisfactory results, except in carbuncle and tuberculosis. To conclude hastily that this or that microbe is the cause of any disease, is but to ignore or set aside the experimental method. The demonstration which the experimental method demands in this case would be complicated, because we would not only have to know that the microbe existed, but we would have to know what was the condition of the blood necessary to the culture of that particular microbe, and science tells us that, for the present, this is a problem we cannot solve.

We know very little of the normal condition of the blood, and biological chemistry is still in its infancy. Man cannot separate himself from these millions of parasites among whom he lives. That bacteriology may be a guide in the cure of disease, we must not only learn all we can of the microbe itself, but, more important than all, must ascertain all that is possible of the condition of the field of culture. The science of the present knows nothing of the conditions of these fields of culture in living organisms. It is thus evident that in the present condition of bacteriology it cannot be taken as a guide for the treatment of internal diseases. The older school of medicines spoke of organic dispositions, or tendency of such and such a disease. This expression had no meaning, but it expressed the fact. When bacteriology speaks of a need for a special field of culture it says the same thing, because we do not know of what the field of culture consists. Therefore, this cannot be called a science, because a science is never composed of unknown things; it goes from the known to the unknown. If a man supposes a fact instead of demonstrating it, the phenomena of nature are not reproduced. When he resorts to hypotheses the power of man disappears. If nature's laws are not respected, the telephone does not work, the electric light does not flash, the

steam engine stops. The doctor, then, is the only one who pretends to become the master of nature without knowing her laws. Referring again to the failure of medicine to follow up a discovery in the scientific way with thorough research and demonstration, and its tendency to accept conclusions quickly, Professor Semmola said that modern bacteriology may lead the way to the most fruitful field of inquiry in the future, but for the present it has produced no practical results in the cure of internal diseases. It has not, he claimed, been demonstrated in what measure microbes are the causes of diseases. He therefore hoped that the younger generation would continue experimental researches with the thoroughness of methods which the masters have transmitted to us. They must renounce their preconceived ideas in medicine, and interrogate nature without torturing her. Scientific independence must be preserved. They must not proceed without measuring their steps. He trusted that his desire for scientific independence in such researches would be echoed in this land of independence.

A unanimous vote of thanks was extended to Dr. Semmola for his address.

Dr. A. Tucker Wise, of Engadine, Switzerland, presented a paper on

THE CLIMATE OF THE SWISS ALPS, WITH PULMONARY CASES TREATED  
AT AN ALTITUDE OF SIX THOUSAND FEET.

The marked peculiarities of Alpine winter climate may be enumerated as dryness of the air and freedom from micro-organisms, mechanical irritants, and noxious gases, low temperature, plenty of sunlight, low pressure, and ozoniferous atmosphere. The results of these peculiarities upon pulmonary complaints may be stated thus:

1. By breathing aseptic air free from dust, irritation or, perhaps, recurrence of infections by microbes in the respiratory tract is greatly lessened.
2. Vaporization of morbid secretions in the lungs takes place, promoted by reduced barometric pressure and dryness.
3. Increased oxidation of blood and tissue from sunlight, cold air and reduced pressure.
4. Increased quantity of blood circulating in the lungs, the freedom of the circulation being aided by extended chest movements.
5. Increased activity in the pulmonary lymphatics, and a general improvement in nutrition and glandular secretion; also an exhilarating effect upon the nervous system.

The four principal health resorts of the Grisons, in Switzerland, are Maloja, Weisen, Davos and St. Moritz. The climates of these resorts are stimulating and tonic.

Twenty-three cases are related, showing great improvement during a residence of from one to sixteen months.



A paper by Dr. John D. McDonald, Inspector General Royal Navy,  
on

GROUND AIR IN ITS HYGIENIC RELATIONS,

pointed out the importance of the study of the atmosphere of the soil,  
but contained no new points of view.

Dr. P. H. Bryce, of Toronto, Canada, Secretary of the Provincial  
Board of Health, read a paper upon

HOUSE ATMOSPHERES, OR ARTIFICIAL CLIMATE.

The points considered were the constituents of house atmospheres,  
their temperature and humidity, and air currents; the effects of house  
atmospheres on populations, and remedies for existing evils connected  
with house atmospheres.

With reference to the constituents of house atmospheres, the obser-  
vations of Miquel, Koch, Aitken and Tyndall upon in-door and out-door  
air were quoted. Considerable attention was given to temperature  
and humidity in connection with house air.

The remedies for the evils mentioned are sunlight in abundance,  
greater care in the construction of dwellings, foundations and plumb-  
ing appliances, improved municipal sanitation and the attainment of  
equable heating and thorough ventilation. In conclusion, it must  
be recognized, that the fatal effects of the imperfect conditions of  
human life under which Indians, negroes and many of the people of  
limited means exist, demand the earnest consideration of all workers  
in the field of climatology and demography; and since their occupations,  
urban residence and limited means make it impossible for an increasing  
proportion of our population to enjoy the health-giving influences of  
rural residences and the stimulating effects of life by the ever-restless  
ocean, or upon the mountain side, we shall best conceive the duties  
assigned to us, of making it possible for every willing citizen to so live  
under his own roof as to maintain a vigor unimpaired for the discharge  
of the work lying nearest him, and to transmit to the race that is to be  
a legacy of physical health.

The opening address of the president of the section in medical cli-  
matology and demography (Albert L. Gihon, M. D., U. S. Navy), was  
entitled

ON THE DOMAIN OF CLIMATOLOGY AND DEMOGRAPHY AS DEPENDENCIES  
OF MEDICINE

A place was claimed for climatology as one of the sisterhood of  
medical sciences. The science must be taught in a manner befitting  
the importance of the subject. Preventive medicine, to which clima-  
tology and demography are contributory sciences, is more important  
than curative medicine. The views of the late Professors Austin Flint  
and Samuel D. Gross were quoted in support of this assertion.



The climatological study of the future must be based upon more rational methods of investigation. The mere recording of meteorological factors is not sufficient. Determinate climatic characters are not easy to formulate. Malaria is not a climatic disease, because the cause of malaria is a removable one and within the control of man, as proved by the experience in the marshes of Savannah, the lowlands of Holland, the Maremma of Tuscany and the Roman Campagna, whose poisonous exhalations have been converted into innocuous vapors. The drainage of the Roman marshes has reduced the death rate of the Italian army to one-third of its former magnitude. There are few specific climatic diseases. Local conditions of insanitation are more responsible for the production of diseases than the general influences of climate. By appropriate regulation of habits, clothing and diet, the morbid effects of climate may be modified or averted, or its sanitary or therapeutic influence heightened.

The data for future generalizations must be furnished by accurate and laborious collective investigation. Vital statistics must in future be something more than mere records of so many deaths, births or marriages. Morbidity records must form the principal data for the vital statistics of the future. To have these records accurate, voluntary effort cannot be depended upon; they must be made under governmental authority. A rational nomenclature is a necessity, if our vital statistics shall serve as the basis of trustworthy generalizations.

Dr. George H. Rohé, of Baltimore, read a paper upon the

#### METEOROLOGICAL ELEMENTS OF CLIMATE AND THEIR EFFECTS UPON THE HUMAN ORGANISM.

The writer stated that medical climatology presented a much more complex problem than physical climatology. While the recorded observations of meteorological phenomena must form the basis, other conditions, such as those of the soil, must be taken into account. In studying the most characteristic climatic diseases, such as cholera, yellow fever and epidemic dysentery, an intermediate factor—namely, the special virus of the disease—must be considered. A hot climate alone will not produce the diseases mentioned.

Sanatory or morbid effects are, however, produced by varying meteorological conditions. The effects of greatly diminished pressure upon the human organism are well known. Paul Bert and others have shown that these effects are not merely due to the physical condition of diminished pressure, but that the relative diminution of oxygen in rarified air is an important factor in their production. While cases of phthisis usually do well in a moderately rarified atmosphere, the effects of diminished pressure are not always beneficial, as has been pointed out by Dr. Loomis, who warns against the danger of sending patients with heart disease to high altitudes. It is not probable that diurnal or accidental variations of pressure have any appreciable in-

fluence upon health. Investigations conducted by the writer have failed to yield any positive results.

The primary classification of climates into tropical, temperate and polar indicates the influence ascribed to temperature as a climatic factor. Although recent writers have attributed a determinate climatic influence to humidity, it is probable that this is of far less importance than some have supposed. The temperature must still be regarded as our best index of climate, but too much dependence must not be placed upon it. Many of the unfavorable effects attributed to moisture in the atmosphere ought to be ascribed to coincident insaniary conditions. The sanitary or morbid effects of air-currents have not been sufficiently considered as a climatological factor heretofore.

The tendency among climatologists at present is to deny to ozone any sanitary or disease-producing influence. Hydrogen peroxide is believed to be an antiseptic agent of importance in the atmosphere by some clinicians, who also ascribe therapeutic effects to the aromatic exhalations of certain plants. Very little of a definite character is known of the effects of these conditions. Further investigation is needed. The climatology of the future must be studied upon a broader basis, and ethnological, geographical and epidemiological data must be taken into account before drawing conclusions.

Dr. W. T. Parker, of Newport, R. I., read a paper on

THE IMPORTANCE OF THE STUDY OF CLIMATOLOGY IN CONNECTION WITH  
THE SCIENCE OF MEDICINE.

He animadverted upon the prevailing want of knowledge upon climatology among physicians. The science should be more widely studied. A number of health resorts were mentioned as combining the requisite climatic with the appropriate sanitary conditions to qualify them as resorts for the sick. A wagon trip across the plains was recommended as one of the best means to obtain the advantages of a climatic health resort.

The President of the SECTION ON MILITARY AND NAVAL SURGERY AND MEDICINE (Henry Hollingsworth Smith, M. D., LL. D., of Philadelphia, Pa.) in his inaugural address referred to the greatness of our country, the climatic differences met with over its immense territory, its great extremes of temperature, its geographical characteristics, the large yearly immigration, and the peculiarities, social and physical, which would largely result from these conditions. He drew a graphic picture of the desolation of the alkaline plains of the West, with their inhospitable soil, in comparison with the more favored sections of our country, the fertility of the prairies, and their bountiful flora and fauna.

Referring to the social characteristics of the race, these were largely due, he said, to the struggles and hardships of the early settlers, who had a hard time of it in defending the soil reclaimed by great hard-

ships and privations from its aboriginal inhabitants, who were constantly on the war-path, against them. The speaker also adverted to the great opportunities that even a man born in humblest of conditions has of attaining the highest round of the social ladder by energy and perseverance, and gave as examples the lives of some of our presidents. The soldier, he said, also had greater opportunities than in other countries in rising from a simple private to the highest rank, as was so well exemplified by scores of instances during the late war. The wonderful resources of the country in time of emergencies were alluded to, and comparison was drawn between the small regular army of the United States in 1861 to the enormous number of men enlisted up to 1865.

A large majority of these, he said, had returned to peaceful pursuits. The speaker adverted to the remarkable growth of the medical corps of the army, and of the enormous sum of over \$47,000,000 having been expended for medical supplies during the late war. He feelingly alluded to the inestimable services of the late Dr. Frank H. Hamilton, of New York, whose recent death was mourned by the nation.

The services rendered by the American surgeons in the Crimean, Franco-Prussian and other European wars were alluded to. The great value of the medical and surgical history of the war of the rebellion is admitted, he said, by all Europeans. The speaker then alluded to the great improvements made in the disposition of field hospitals, and to the desirability, which was being recognized, of treating the wounded under canvas, as their chances for recovery and freedom from complications were far greater under these conditions. The importance of selecting the proper site for such hospitals, sheltered from cold winds and naturally drained, was also touched upon.

At the conclusion of the president's address, it was moved that the president be tendered a vote of thanks for his able and interesting address, which was carried unanimously.

A paper was read by title, by Surgeon-Major Francis Patrick Staples, M. K. Q. C. P., Ireland, of the medical staff of Aldershot, England, entitled

**A SHORT SCHEME FOR WATER ANALYSIS IN THE FIELD, IN CONNECTION WITH WHICH WILL BE SHOWN A SMALL PORTABLE CASE FOR REAGENTS AND APPARATUS.**

Dr. Staples was absent, on account of a death in his family. A few extracts, however, were read in explanation by Dr. Marston, of England.



The next paper was entitled

ON THE NECESSITY FOR A MORE CAREFUL EXAMINATION OF THE WATER SUPPLY OF MILITARY POSTS, WHERE AN UNUSUAL AMOUNT OF SICKNESS PREVAILS, AND EXAMINATION OF HYGIENIC SURROUNDINGS,

By Morse K. Taylor, M. D., Major and Surgeon United States Army, of San Antonio, Texas.

The author briefly reviewed the history of army sanitation in this country, and spoke of the alarming death-rate at some of the military posts, due mainly to enteric and malarial fevers; an improvement at these military posts could only be had by giving proper attention to the water supply and general sanitation of such military posts. The author showed that very little attention had been given to these subjects, and that there had resulted a vast amount of sickness in the army. This sickness is remediable, as typhoid and malarial fevers are preventable; for it is shown that where they exist in excess, it is because of inattention or neglect to seek their cause and apply the proper remedies. Wherever efforts have been made to supply those military posts and camps with an abundant supply of pure water, there has resulted great improvement in the health of the soldiers and a consequent reduction in the mortality. Many cases were related, reinforced with copious figures, in proof of the author's assertions.

In the brief discussion which followed, Dr. William H. Lloyd, Inspector General of the British Navy, spoke of the very great importance of an abundant supply of pure water at military posts. He had noticed a certain relation between the rainfall of a region and the prevalence therein of malarial fevers, and that an increase in the development of these fevers was generally the immediate result of a great fall of rain in the region where these diseases prevail; the speaker was unable to explain the mysterious influence which is here at work. He also, in closing, alluded to the fact that analyses of water for the use of the British Navy are regularly made, and that an improvement in the general health has been directly traceable to the pure water in use therein.

Dr. Joseph R. Smith, U. S. Army, thought it was not an easy thing to decide as to the innocuity and harmfulness of a given water, for it was a well-known fact that many waters, even when containing a large amount of organic substances, could at times be used with impunity, while at others its use was attended with baneful results. It was impracticable, he said, to make use of the microscope in the field; the eyes, nose and tongue of a soldier were his best guides, he thought, in the selection of water for drinking purposes, but there were times, while in the field, when the soldier could not exercise his judgment in such selection, and must drink any water that can be found, irrespective of its color, smell or taste, and his drinking such water was



not to be prevented. As to the water supply of military posts, he thought the surgeon was powerless in preventing the pollution of the water, particularly at posts situated within populous districts; but that, in such cases, in public sentiment and appropriate legislation of the several States lay the only remedy.

Dr. Marston, of England, briefly reviewed certain epidemics which he had observed among soldiers, which were undoubtedly caused by the use of impure water; the latter was not the only cause assignable however, in the development of malarial fevers; that the influence of freshly disturbed soil was apt to be overlooked. In certain malarial districts of China this influence was so commonly recognized that it is a popular belief, and one which would seem to be warranted by observation, that even so slight a disturbance of the soil as the scratching of the soil by domestic fowls in quest of food is sometimes followed by the occurrence of cases of malarial fever in the neighborhood.

In conclusion, the doctor called attention to the undoubted influence of water containing the salts of lime in solution in the causation of goitre, and gave an illustration of an epidemic observed by him, where the disease was directly traceable to the use of such waters.

---

## II. REPORT OF THE SECRETARY AS MEMBER OF THE SECTION ON HYGIENE OF THE NINTH INTERNATIONAL MEDICAL CONGRESS.

---

In amount of material and quality of work, this Section will really bear favorable comparison with the Hygienic Congress shortly after convened in the Capital of Southern Germany, although, owing to the deep interest taken by its members in the work of other sections, the attendance on its sessions was meagre. The report preceding is that contained in the Annals of Hygiene where it appeared through the courtesy of the New York Medical Record.

Dr. W. C. Cook, health officer of Nashville, read a paper on "The Necessity of Teaching Hygiene in Schools," in which he advocated that hygiene be added to their curricula; that medical colleges establish regular professorships. Universities and colleges should employ suitable text-books and competent medical men and sanitarians in order to properly impress the minds of pupils. The section unanimously indorsed the sentiments of the paper, as was shown by the following resolutions, offered by Dr. Benjamin Lee, of Philadelphia:

*"Resolved*, That this section cordially indorse the suggestions of Dr. Cook's paper on 'The Necessity for the Teaching of Hygiene in Schools,' and recommend to the Congress the passage of the following resolutions:

"*Resolved, First.* That it is the sense of the Ninth International Medical Congress that every medical college should place the chair of hygiene on its curriculum, and on an equal footing with the other regular branches of instruction.

"*Second.* That in all universities, colleges and high schools hygiene should form a compulsory part of the course of study, and should be taught, not simply through text-books, but by educated physicians.

"*Third.* That in all public schools the teaching of hygiene should form a prominent and essential feature.

"*Fourth.* That every State Legislature should establish a museum and laboratory of hygiene."

The resolutions were adopted not only by the section of hygiene, but also by the entire Medical Congress.

The correspondence between the above resolutions and those adopted by the Vienna Congress is so striking that the latter are appended for comparison :

(2.) Concerning the teaching of hygiene in the schools, it was decided :

(a.) It is the duty of the State to see that the people learn the most important of the requirements of hygiene.

(b.) In the lower schools for both sexes simple instruction as to the constitution and functions of the human body, and the principal conditions of maintaining health should be the rule. In schools for girls a more detailed explanation as to hygienic conditions of dwellings and care for their bodies and food are the principal questions to be taught.

(c.) It is desirable that in medical schools hygienic teaching should be united with the regular course. In the high school for girls hygienic teaching is indispensable.

(d.) It is absolutely necessary that for physicians hygiene (both experimental and practical) be obligatory in teaching and examination. In medical schools we must, therefore, have such chairs.

(e.) In technical high schools hygienic teaching is necessary, particularly the hygiene of artisans and of trades.

Respectfully submitted.

BENJAMIN LEE, M. D.,  
*Secretary.*

---

### III. REPORT OF THE SECRETARY AS DELEGATE TO THE NATIONAL CONFERENCE OF STATE BOARDS OF HEALTH.

---

The Secretary, in accordance with the instructions of the Board, attended the annual meeting of the National Conference of State Boards of Health at Washington, September 8, 1887. The attendance at this conference was good and the discussions interesting, but owing to the fact that the meeting of the Ninth International Medical Congress

was proceeding at the same time, there was an evident desire to curtail the sessions. The most important action taken was the re-affirming of the principles contained in the resolutions adopted at the meeting of the previous year, on the subject of inter-State notification of infectious diseases, with the addition of explanatory clauses, as contained in the appended resolution. It will be expedient for the Board to endorse this resolution as it did the original one, and order it to be added to the circular already issued on the subject, if it meets with its approval.

On the announcement of the death of our late President, Dr. E. W. Germer, by your Secretary, the following resolutions of respect were adopted:

*Resolved*, That in the death of Dr. Edward William Germer, late President of the State Board of Health of Pennsylvania, this Conference has been deprived of the services and counsel of one whose wise and emphatic utterances were always listened to with pleasure and respect.

*Resolved*, That few sanitarians in this country were more thoroughly versed in the principles and imbued with the spirit of hygienic reform.

*Resolved*, That the entire devotion of his time and energies to his duties as health officer of his own city, and as member of the State Board of Health, often to the injury of his private interests, and there is reason to fear with the result of shortening his days, the noble courage with which he faced epidemics, acting as has been well said in one instance as "health officer, physician, nurse and undertaker," commend him as representing the highest type of the practical sanitarian and the christian man.

*Resolved*, That this conference desires to extend to the State Board of Health of Pennsylvania, its appreciation of the loss sustained in the death of so valuable a member, and to the family of the deceased, its sincere sympathy with them in the bereavement of one whose kindly nature and ready sympathies so endeared him to all who knew him.

The Committee on inter-State Notification made the following report:

Your committee begs leave to report the following resolutions:—

*Resolved*, 1st. That the Conference reaffirms the principals contained in the resolutions adopted by it at its meeting in Toronto, 1886.

2d. That those communicable diseases hereinafter mentioned, prevalent in certain areas or which tend to spread along certain lines of travel, be reported to all State and Provincial Boards within said area or along said lines of communication.

3d. That in the instance of small-pox, cholera, yellow fever and typhus reports be at once forwarded either by mail or telegraph as the urgency of the case may demand; and further, that in the instance of diphtheria, scarlatina, typhoid fever, anthrax or glanders weekly re-



ports where possible, be supplied in which shall be indicated, as far as known, the places implicated and the degree of prevalence.

All of which is respectfully submitted.

PETER H. BRYCE,  
HENRY B. BAKER,  
J. BERRIEN LINDSLEY,  
BENJ. LEE,  
J. T. REEVE,  
E. M. HUNT,

*Committee.*

The report having been read it was voted that the vote on its adoption be taken by States. The vote being so taken was unanimous in its favor by all the States and Provinces represented by delegates present.

The following resolution offered by Dr. Reeve of Wisconsin, and amended by Dr. Lee of Pennsylvania, was adopted :

*Resolved*, That the Secretary of this Conference be requested to send copies of the resolution on inter-State Notification of Contagious Diseases to the Executive Officers of all Boards of Health belonging to this Conference, and to request from each of such Boards not here represented, a vote upon the same for record as an appendix to the minutes of this meeting. The proceedings of the Conference in full are herewith appended.

Respectfully submitted,

BENJAMIN LEE, M. D.,

*Secretary.*

---

#### IV. PROCEEDINGS OF THE NATIONAL CONFERENCE OF STATE BOARDS OF HEALTH, AT THE FOURTH ANNUAL MEETING, HELD AT WASHINGTON, D. C., SEPTEMBER 7, 1887.

---

The fourth annual meeting of the Conference of State Boards of Health was held in the parlors of Willard's Hotel, Washington, D. C., September 7, 1887.

The Conference was called to order by the President, Dr. J. N. McCormack, at 9.30 A. M. The Secretary, Dr. Conn, of New Hampshire, being absent, Dr. Lindsley, of Connecticut, was elected Secretary *pro tempore*. The minutes of the last meeting having been published and sent to members, it was, on motion, voted to dispense with reading them.

At the invitation of the President, Dr. Peter H. Bryce, of the Province of Ontario, opened the discussion on the subject of Inter-State Notification of Infectious and Contagious Diseases. He said :

Mr. CHAIRMAN: Although not presenting any formal report from



the Committee on inter-State Notification of Diseases, I desire, in the name of the committee, to state that, succeeding the meeting of last year, I drew up, as chairman of said committee, a form of notification and forwarded it to all State Boards, suggesting its adoption either as made or in some modified form which would fulfil the purposes intended. I have much pleasure in reporting that nearly all the States having commercial relations with Canada, supplied with much regularity throughout the year, reports of cases of infectious diseases, especially outbreaks of small-pox.

It is somewhat unfortunate that New York State, with so extended and important a sea-board and so many avenues for the entrance of disease from without and for distribution therefrom, should not have fallen in with the resolution of the Conference. From newspaper reports and other sources, I am, and I presume the Conference is, aware of there having been a considerable number of cases of small-pox in New York during the year, and further, that the Conference has had no knowledge of where they were located, of their origin or their relationships.

The advantages of a like form of notification and its general approval and adoption is apparent to everyone, since we are enabled thus in some degree to connect cases when *nature, residence, nationality, where exposed*, etc., have been indicated in the form of notification. Indeed, except for information regarding number of outbreaks, and thereby supplying to other States some estimate of the prevalence of the disease, and for enabling the signatory States to investigate outbreaks along certain lines of communication, or to explain the outbreak of cases of otherwise mysterious origin, all will agree, that with the present limited inter-State means for coöperative work, any notification will have but little practical value.

Regarding the question of notification of diseases other than small-pox, cholera and yellow fever, it is a matter for the Conference to consider whether any practical necessity exists therefor, and whether any satisfactory method for carrying it out can be elaborated.

I thank the Conference for its indulgence in listening to my remarks.

Dr. Baker said he had not employed a specially-prepared blank because of the greater expense and trouble, and a belief that his weekly bulletin, especially when a marked copy was sent, would be accepted as sufficient. If it was not satisfactory he would be glad to know it.

In his opinion, the mortality statistics prove that small-pox is of small consequence compared with scarlet fever or diphtheria, and he suggested the question whether the same principle of notification should not apply to each of these diseases which involve greater danger.

Dr. Rauch objected that such notification often lost its value by the slowness of transmission. The facilities for rapid traveling sometimes required the most prompt information of danger to prevent the

transmission of infection, and instanced the ease with which small-pox can be conveyed from one State to another

Dr. Lindsley, of Tennessee, thought Dr. Baker's point was well taken. A case of small-pox in Maine was of no consequence to the people in Tennessee. He did not think it necessary to notify every State in the Union of each case of small-pox, but the matter was quite different in regard to yellow fever or cholera. He believed the occurrence of either of these diseases ought to be published widely.

After Dr. J. B. Lindsley had spoken, Dr. Baker urged the value to families, about to travel or locate, of information relative to the presence of scarlet fever or diphtheria in places which it was intended to visit, saying, if the places where these diseases are present are published, the information is sometimes useful in preventing the taking of children directly into danger. He would be glad to be able to inform citizens of Michigan as to the presence or absence of these really dangerous diseases, not only in places in Michigan, as is now done by means of a weekly bulletin, but also relative to important places in other States. On lines of travel where inter-communication is constant and rapid, telegraphic reports, he thought, might sometimes be useful, even between places as distant as New York and Michigan.

Dr. Rauch said, the idea of inter-State notification originated in the discussion of the means of preventing the spread of yellow fever. In regard to such notification concerning diphtheria and scarlet fever, he believed it to be impracticable.

Dr. E. M. Hunt, of New Jersey, believed the importance of inter-State notification depended largely upon the prevalence of a given disease. Any disease prevailing as a wide-spread and destructive epidemic deserved notification.

Dr. F. F. Gary, of South Carolina, spoke of the importance of notification as relative chiefly to yellow fever, cholera, etc. He did not regard it necessary in those diseases that are prevalent in some portion of the country all the year round, such as diphtheria, etc.

Dr. Benjamin Lee, Secretary of the State Board of Health of Pennsylvania, considered that it would be a grave error to omit small-pox from the list of diseases for which inter-State notification is required. The ease with which it could be conveyed in personal effects, and its extreme malignity, made it in his eyes one of the most important to circumscribe and to be on the alert against its invasion. With reference to the solemn compact to notify all the other State Boards, he confessed that he had understood it to apply only to contiguous States or those in direct line of communication, and he had felt that he was doing his full duty under the agreement in notifying the secretaries of the six States bordering on Pennsylvania, and the Province of Montreal, which is in direct water communication with it. He had during the past year sent notice of the occurrence of twelve cases or

outbreaks of the disease in question within the limits of his State, and had received similar information of seven in other States.

Dr. C. O. Probst, of Ohio, said that it was in some degree impossible for him to give very prompt notification of diseases occurring in his State, as he was mainly dependent upon information given by voluntary correspondents. A number of these had been secured who furnished weekly reports of prevailing diseases. Cases of small-pox occurring in places provided with health officers were promptly reported, and notice of these had been sent to other States by telegram or letter. A weekly health bulletin was issued, based on reports from correspondents, and this had been used in one or two instances as a means of inter-State notification. He understood that such notification was only to be made to contiguous States.

Dr. Fisher, of Rhode Island, said that there could be no question as to the value of inter-State notification, and especially from adjoining States, of the occurrence of small-pox, yellow fever and cholera. The facilities of travel and the demands of business were such, that the intercourse with cities and large towns in other States, was almost as frequent as between adjoining villages in some of the country towns of the same State. During the past year he had received, with much satisfaction, such notification from adjoining States, and from more distant localities, and had in turn given similar notice of a case of small-pox in Rhode Island. He thought it very important that the origin of each case should be given if possible of ascertainment, because, sometimes the locality of origin was nearer at hand than the locality of the notified case or cases, and the place of origin needed quite as much, or perhaps more attention than the location of the known disease, inasmuch as the disease might still be lurking in a modified form, or in concealment in the place of origin.

Dr. Reeve, of Wisconsin, said: It seems to me that the extent and exact nature of the agreement supposed to have been entered into with reference to the inter-State notification of contagious disease is not well understood, and that the practice of States under this resolution is so far from being either uniform or thorough as to be of little practical value at present.

My own understanding of the spirit and scope of this resolution was, that I should promptly notify the executive officers in each of the group of States that are contiguous to the one that I represent whenever any of the diseases specified in the agreement should appear in my own State, and my practice has been in accordance with this understanding. I have not understood that it was incumbent on me to notify the officers of distant States. I do not know that this is the general understanding, or in fact that there is a general understanding in regard to the matter. In some instances I have received notice from the executive officers of the Boards of Health of States adjacent



to my own, and in other instances I have first learned of the existence of contagious disease in States near me only through the public press. On the other hand I have received such notification from very distant States; Maine in particular has sent such notices to me, and while I am glad of course to know from official sources what diseases are prevalent or existent in such distant States, the information has in it but little that is likely to be of practical value to us if similar reports do not come from intermediate States much nearer to us, and in very much closer connection with us by lines of public travel.

I think that we need a much clearer definition than we now have of what is expected of us, and what is obligatory upon us under the resolution under discussion.

Dr. J. Berrien Lindsley, of Tennessee, said that as a practical matter the inter-State notification of infectious diseases as agreed upon at Toronto last year, was of prime importance. The fidelity with which this compact was carried out by the State Board of Health of Louisiana, had relieved the inter-States of the Mississippi Valley of the dread formerly prevailing that yellow fever would slip in unawares through New Orleans.

He agreed, however, with Dr. Baker, that the agreement needed modification. The Union and Dominion combined embrace over six million square miles, and about sixty-five million of people. For so vast a region the compact should admit of some elasticity. A case of small-pox in Maine would not be of moment to Tennessee, but it would to Quebec; small-pox in New Orleans would concern Tennessee but not Maine or Ontario. Cholera at New Orleans or Quebec would concern the entire region embraced in the compact. It should be so modified as to accomplish the great good intended, and yet not be needlessly burdensome.

At the conclusion of the above remarks, Dr. Hunt, of New Jersey, offered the following resolution:

*Resolved*, That in the judgement of this conference there should be notification of adjacent States or those in close travel communication in all cases of small-pox, cholera, yellow fever and typhus fever.

*Resolved*, That in case of diphtheria, scarlet fever and typhoid fever there should be notification of adjacent States when the outbreak is near the border of the adjacent State.

*Resolved*, That uniformity of blank is desirable.

The resolution was not put to vote, but was referred, together with the whole subject to the Committee on Inter-State Notification.

On motion of Dr. Bryce, it was voted that the committee have power to add to their number, and that they report at the meeting on the following morning.

The following report of the secretary, Dr. Conn, of New Hampshire, was then called for and read:



**Secretary's Report.**

*Mr. President:* Being unable to meet with the conference this year, permit me to submit through you my reports as secretary and treasurer.

The treasurer's report herewith enclosed shows the amounts paid in and disbursed; and is accompanied by a check for the small balance remaining in my hands, payable to your order.

From the list of payments it will be seen that of the twenty-one States represented at our last meeting in Toronto, fifteen Boards have remitted the amount of the assessment which was voted at that meeting, and as Indiana generously published our proceedings and allowed an opportunity for us to obtain reprints at a very low rate, it would seem but an act of justice to include her Board in the list of those having paid their dues.

Iowa, Maryland, Minnesota, New Jersey and New York, as well as all the Provincial Boards failed to respond or send any report. While Alabama, North Carolina, Missouri and Kansas, which were represented at Toronto, were among the first to send in their assessment.

Several States having nominal organizations to represent health boards responded, and expressed a desire to be included in this great National work, but on account of being destitute of funds, which is absolutely necessary to develop any sanitary work, they are obliged to remain outside the organization. In view of the fact that some of these Boards have representative sanitarians on their list of members, men whose names are honored by all friends of State medicine, and who are struggling on in the firm hope of eventually securing recognition from the public to that extent necessary to cause them to demand the financial support adequate to sustain an active, working organization, I would suggest that our Committee on Organization and By-Laws take into consideration the situation of these Boards, and, if thought best, allow them an honorary position until such period as they may secure the funds necessary to become active workers.

Such a recognition of their gratuitous services to the people of their States might have its influence in creating that sentiment which in time will give them the means of more fully developing their organizations.

No report has been received from either the Dominion or Provincial health authorities, although circulars and programmes have been sent to them the same as to the several States, nor has any reply been elicited whether any delegates would be appointed to attend the meeting in Washington. Rhode Island, Ohio, Michigan, Wisconsin, Iowa, Pennsylvania, Kentucky, Tennessee and North Carolina have ap-

pointed delegates. Other State Boards may have done the same, but if so, I have not been informed of the fact.

I have prepared a roll-call of the States for the use of the conference, which I herewith append.

The programme may seem short and unimportant, yet it contains all that was submitted to your Secretary, and the circular asking for "questions or suggestions" was sent out early in the season.

It is with great sorrow—which I know you will all share with me—that I am obliged to report the death of one of our most esteemed co-workers at our meetings in Washington and Toronto, Dr. E. W. Germer, of Pennsylvania. No words of mine are needed to bring before your minds the noble man that he was, and the steadfast earnestness and honesty of purpose with which he was wont to state his position on sanitary matters. He was a sanitary host in himself who never shirked any responsibility that came before him. He was outspoken, without being vindictive; fearless, yet not rash; determined, yet gentle in his demeanor; detesting all shams and pretences, he was genial and sociable in his nature, and we shall all miss his earnest zeal in the support of every sanitary measure which may promise to secure to mankind increased immunity from preventable disease. Pennsylvania has lost a strong sanitary advocate, his adopted city a faithful local health officer, whose place they will find it hard to fill, while in his death the National Conference of Health Boards has lost a zealous co-worker, and a warm-hearted sympathizer in all our labors. Let us ever hold in grateful remembrance his many good qualities, and bear an affectionate testimony to his genius, his affability and great love for the principles of State medicine.

No communications have been received regarding the unfinished business of last session, nor any suggestions in reference to the proposed permanent organization.

Regretting very much my inability to be with you in Washington, I sincerely thank you for the honor you have conferred upon me in being elected to the office of secretary.

All of which is respectfully submitted.

GRANVILLE P. CONN, M. D.,  
*Secretary.*

CONCORD, *September 3, 1887.*

On motion the report was by vote accepted and ordered to be printed with the proceedings.

By direction of the President, the roll-call of the States was read by the secretary *pro tem.* and responded to by the following delegates:

Alabama.  
Arkansas.  
California.  
Colorado.

Connecticut, Dr. R. S. Goodwin, Dr. C. A. Lindsley.

Delaware.

Florida.

Georgia.

Illinois, Dr. J. H. Rauch, Dr. Wm. R. Mackenzie.

Indiana, Dr. Charles N. Metcalf.

Iowa.

Kansas, Dr. W. L. Schenck, Dr. D. Surber.

Kentucky, Dr. J. N. McCormack, Dr. J. O. McReynolds.

Louisiana.

Maine, Dr. A. G. Young.

Maryland.

Massachusetts.

Michigan, Dr. Henry B. Baker, Dr. A. Hazelwood.

Minnesota.

Mississippi.

Missouri.

New Hampshire.

New Jersey, Dr. E. M. Hunt.

New York.

North Carolina, Dr. J. W. Jones.

Ohio, Dr. C. O. Probst, Dr. H. J. Sharp.

Pennsylvania, Dr. Benj. Lee.

Rhode Island, Dr. C. H. Fisher.

South Carolina, Dr. F. F. Gary, Dr. J. R. Bratton.

Tennessee, Dr. J. Berrien Lindsley.

Texas.

Virginia.

Vermont, Dr. C. L. Allen.

West Virginia.

Wisconsin, Dr. J. T. Reeve.

District of Columbia.

Dominion of Canada.

Province of Ontario, Dr. Peter H. Bryce, Dr. F. Rae.

Province of Quebec.

Manitoba.

Dakota Territory, Dr. J. B. Van Velsor.

Dr. W. L. Schenck, of Kansas, announced the death of Dr. D. W. Stormont, of that State.

Dr. J. H. Rauch, of Illinois, moved and it was voted, that the president appoint a committee to draft suitable resolutions, relating to the decease of Dr. E. W. Germer and Dr. D. W. Stormont, and submit them to the meeting of the conference on the following day.

The president named as such committee Drs. Rauch, of Illinois,



Lindsley, of Tennessee, Schenck, of Kansas, and Lee, of Pennsylvania.

On motion of Dr. C. N. Metcalf, of Indiana, it was voted that the president be requested to send by telegraph, an expression of sympathy, on behalf of the conference, to Dr. T. F. Wood, of North Carolina, he being confined at home with a dangerous illness.

On motion, it was voted to adjourn until the next day at 9 A. M. at the same place.

---

ADJOURNED MEETING.—*Thursday, September 8.*

Pursuant to adjournment the meeting of the conference was called to order by the president at 9.10 A. M., in the parlors of the Willard House.

The minutes of the previous meeting were read and approved.

The first business taken up was the consideration of the following questions:

1. Does your State Board of Health receive from every part of its State prompt notification of the occurrence of diphtheria, scarlet fever, typhoid fever and small-pox?

2. If such prompt notification is received, does your State send an expert to each locality where a case occurs?

3. Just what is done by your State Board on receiving a notice of diphtheria, scarlet fever, typhoid fever or small-pox?

The president announced that he would call for responses to the above questions, by States, calling them in alphabetical order.

On motion of Dr. Baker, of Michigan, it was voted that the delegates be restricted to eight minutes each, in their replies to the above interrogations.

Responses from the following States were made by their respective delegates as follows:

CONNECTICUT.—Dr. C. A. Lindsley, Secretary of the State Board, said: In order to appreciate properly the answers which Connecticut is obliged to give to such questions, it is necessary to understand the relation of the State Board of Health to the people of her Commonwealth and to the local boards of the State. The State Board is only an advisory board. It has no mandatory powers. As a board of health its functions lie chiefly in the line of investigations of the causes of disease, and especially of epidemics when they may prevail; in giving counsel and moral support to local boards in their efforts to improve their sanitary condition, and in striving to awaken an interest in sanitary science, and diffuse a knowledge of the principles of public hygiene among the people.

In addition to this, the State Board is charged with the superintend-



ence of the registration and compilation of the vital statistics of the State.

This latter duty consumes not only a large part of the time of the Secretary of the Board, but also a greater part of the appropriation made by the State for its expenses.

In view of these facts, the reply to the first question must necessarily be in the negative.

The State Board does not receive prompt notification of the occurrence of the diseases mentioned from each locality. It will be readily understood that if the communication of such information is a voluntary matter, a prompt and general practice of giving it is not to be expected.

The answer to the second question is implied in that of the first. But I am ready to affirm that if notification of those diseases were made to the Board an expert would not be sent, certainly not to each locality where a case occurred. I desire to ask my friend, Dr. Baker, the Secretary of the State Board of Michigan, if, upon being notified of a case of typhoid fever in Detroit, he would think it necessary to send an expert there to take charge of it. In the towns of Connecticut, I should fear the resident physicians would resent such a proceeding as unwarrantable impertinence, and one not to be thought of except under very extraordinary circumstances. Besides this, even in the small State of Connecticut, without the prevalence of any severe epidemic, the cases of these diseases are numerous enough, all the time, to give active employment to a pretty large body of experts, if one was sent to each case.

It does not appear to me to be possible that any State Board can give an affirmative answer to that question.

To the third question, the Connecticut State Board can answer, that while it does not receive prompt notification of all cases of these diseases, it does frequently receive through various channels, information of any unusual prevalence of them.

That the State Board has published and keeps on hand a supply of circulars relating to the prevention and restriction of each of these diseases, and whenever informed of an outbreak in any locality, immediately sends to the informant, or to the local health board, an ample supply of such circulars for distribution.

And further; if anything is known which would seem to demand it, or if requested, the Secretary of the Board personally visits the locality, investigates the sanitary conditions, and offers the best advice he can.

ILLINOIS.—Dr. Rauch, Secretary of State Board said his State answered in general in the negative. He seldom found it necessary to send an expert, but generally depended upon sending circulars to the places where these diseases appeared.

INDIANA.—Dr. Metcalf, Secretary of the State Board, said, his Board did not get immediate information of the existence of the diseases named. Very often the first knowledge of them was obtained from the newspapers; if inquiry verified the papers, he sent circulars, and in exceptional cases made personal visits.

KENTUCKY.—Dr. J. N. McCormack, Secretary of State Board, said: We do not always receive prompt notification of an outbreak of the diseases named, except it be of small-pox. Reports in regard to the other diseases are only made at regular intervals, unless they assume alarming proportions or threaten to pass out of the jurisdiction or beyond the control of the local authorities. We do not send experts unless requested to do so by the local authorities or in cases where such authorities fail or refuse to act. The legislative act creating our Board was evidently framed with the idea that the Board should act mainly as a central bureau for the collection and dissemination of information from and to the local authorities and people, and was only expected to exercise the extraordinary powers given it in such emergencies and epidemics as can not be successfully managed by the county and city boards. Any other method would do violence to the system of government in our State, and would be likely to engender such jealousies and hostilities between the local boards and the State Board as would more than counterbalance the good results from such interference.

KANSAS.—Dr. W. L. Schenck said legal provision is made for the notification of infectious diseases, and it is reasonably general and prompt. Our Board does not send experts to cases unless some special necessity exists, and in each case we do whatever the outbreak seems to demand.

MAINE.—Dr. A. G. Young, Secretary of the State Board of Health, said: Our new law, making it compulsory upon every town to have a board of health, has but recently gone into operation, and a few towns have not been heard from. Our law provides for the reporting of all these contagious diseases to the local board, and through the executive officer of the local board to the State Board. I think the new boards generally are trying to do their duty, and have made a good beginning. The most of these outbreaks of infectious diseases, I think, are reported. With this explanation I would answer that we do not receive prompt notification from all parts of the State.

In the one case of small-pox which has occurred during the year the Secretary of the State Board immediately visited the locality and found that the newly-appointed health officer had promptly recognized the case and as promptly quarantined it. With the other diseases the sending of any expert to every case would be impracticable.

It is the endeavor of the State Board to keep the local boards supplied with circulars, for popular distribution, giving the proper pre-

ventive measures for these four diseases, and also the following blanks: One for the use of physicians and householders, on which notification may be made to the local boards; one on which the secretary of the local board or the health officer may notify the State Board; a third for a weekly report to the State Board during the prevalence of these diseases or any one of them; and a fourth blank on which the local board is required to make a special final report. The last three are in form much like those in use in Michigan. The notification usually gives important data from which to judge of the character of the local preventive work and often says that the house is placarded. The State Board immediately sends a supply of preventive disease circulars, and a brief one on disinfection, and gives usually by letter such further directions as may be thought necessary.

Dr. Baker, Secretary of State Board of Michigan, said, in answer to the question:

(1.) As a rule the Michigan Board does receive from every part of the State prompt notice of the occurrence of small-pox, scarlet fever and diphtheria, and reports of the occurrence of typhoid fever are beginning to be generally received; the proportion of such occurrences reported is somewhat in proportion to the time during which the State Board has been laboring to educate the people relative to each disease; next to small-pox the first disease brought to the notice of the citizens of Michigan was scarlet fever, and it is now generally known in Michigan that this is a disease dangerous to the public health and must be reported; next, diphtheria was taken up, and more recently typhoid fever.

(2.) The Michigan Board does not generally send an expert to a locality where a dangerous disease occurs. [This subject Dr. Baker dwells upon in his paper on the "New Means of Prevention," etc.]

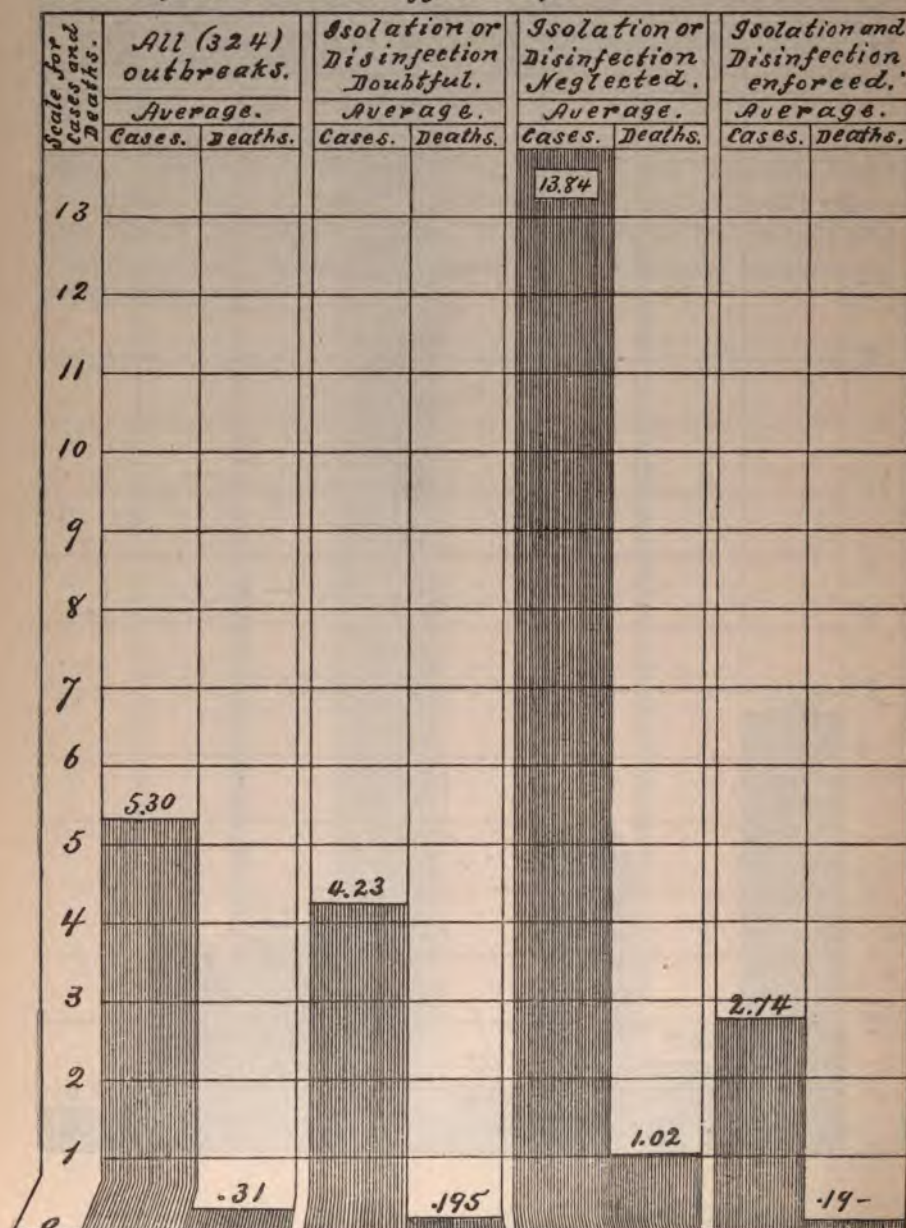
(3.) On receiving notice of a case of diphtheria, scarlet fever, typhoid fever or small-pox the information is at once recorded in a book specially prepared for each of these diseases, showing at a glance several facts which aid in obtaining further information and in compiling the data at the close of the year. Pamphlets containing concise instructions how to restrict that particular disease are immediately sent to the health officer with a request that he distribute to the neighbors of the families in which the sickness is, because it is believed that they will be most likely to read them at such times and to guard their own families from the danger. The idea of danger from neighbors is then readily accepted, and the idea of danger to neighbors is afterwards in some cases more easily accepted than if that idea was first presented. The health officer is urged to stamp out the disease; to isolate, disinfect, and report weekly the status; and after the disease is over a final report is required stating the number of cases, number of deaths, kind and amount of disinfectants used, and other

methods employed. At the office of the State Board all such information is tabulated and published in the annual report of the Board. An effort is made to utilize such information as soon and thoroughly as possible. For instance, I show you a diagram which exhibits at a glance on a single page the results of the action of the health authorities throughout the State, during the year 1886, relative to the spread of diphtheria. It shows that in the 461 outbreaks the average number of cases was 6.69 and the deaths 1.42 to each outbreak; that in 116 outbreaks in which isolation and disinfection were enforced the averages were: Cases, 2.86; deaths, .66, while in the 102 outbreaks in which either isolation or disinfection was neglected the cases and the deaths were about five times as many, namely: Cases, 16.18; deaths, 3.23. A similar diagram shows the results of action to restrict scarlet fever. The differences, however, are not so great as in diphtheria. One of these leaflets, giving the combined expression of all the health officers relative to a given disease, is sent to a health officer who reports the presence of one of these diseases, and cannot fail, I think, to supply stimulus for more effective efforts for isolation and disinfection.





*Scarlet fever in Michigan in 1886: The Average Numbers of Cases and Deaths per outbreak:—1, in all the 324 outbreaks reported; 2, in the 221 outbreaks in which it is doubtful whether or not Disinfection or Isolation were secured; 3, in the 45 outbreaks in which Isolation or Disinfection or both were neglected; and 4, in the 58 outbreaks in which Isolation and Disinfection were both enforced. (Compiled in the office of the Secretary of the State Board of Health from reports made by local health officers.)*



Dr. Hunt, of New Jersey, said: We do not receive prompt notification of the occurrence of all cases of infectious diseases. Our great effort is to make the local boards feel the responsibility of the care of these outbreaks and get them to act. In cases of serious epidemics we send experts if the circumstances seem to require it.

Dr. T. F. Wood, Secretary of the State Board of North Carolina, was detained by illness from attendance upon the conference, but in response to questions under consideration, sent the following communication to the secretary:

WILMINGTON, *September 13, 1887.*

Dr. C. A. LINDSLEY, *Secretary of Conference, New Haven, Conn.:*

DEAR SIR: In reply to the questions on circular referred to me by Dr. Jones, would say that this Board does not receive prompt notification of contagious diseases, there being no requirements for such notification except through the regular monthly reports. When the pecuniary condition of our Board will permit such prompt notification will be required, and an expert will be sent to inquire into its cause, etc., but at present this is impossible. Nothing is done on receiving notice of these diseases, this being left to the superintendent of health of the different counties. However, should an epidemic threaten, the contingent fund of \$2,000 provided by the State, would become available and would be used. Am sorry not to have been able to attend the conference.

Yours, very truly,

THOMAS F. WOOD, M. D.,  
*Secretary.*

OHIO.—Dr. Probst said: No; prompt notification is not received from every part of the State. The law makes it the duty of physicians to report such cases promptly to local health officers, who, in turn, are required to report to the State Board of Health. In places not provided with health officers it is the duty of physicians to report direct to the State Board. There is no penalty attached in either case for a violation of the law, and reports are not generally made. About three hundred physicians act as regular correspondents of the Board, reports being sent in on blanks furnished by us. Of the entire number, however, only about seventy-five report each week. Experts, as a rule, are not sent to investigate outbreaks of these diseases. Members of the Board have made investigations in three instances. As to what is done on the report of such cases, the following blanks are sent to physicians on the report of cases of diphtheria, scarlet fever, or typhoid fever, while circulars relating to these diseases are usually sent to the family, the physician, or to some public official for distribution.



COLUMBUS, OHIO.

DEAR DOCTOR: I find you have reported for the week ending . . . .

. . . . . cases of diphtheria.

. . . . . cases of scarlet fever.

. . . . . cases of typhoid fever.

We desire to collect all the facts possible relating to outbreaks of dangerous communicable diseases, and you will confer a great favor on the Board by answering the questions on the inclosed blanks.

We send you a blank for each case reported, and you will please number them—1, 2, 3, etc., in your answers.

At the end of the year it is expected such reports will enable us to collate valuable data concerning the origin, mode of communication, etc., of contagious diseases. These will be used in our annual report, where due credit will be given to all who have aided in their collection.

Please inform me if the circular issued by the Board regarding the restriction and prevention of this disease would be of use, and to whom we could send copies for distribution.

Yours, very respectfully,

C. O. PROBST, M. D., *Secretary*.

## DIPHTHERIA.

## CASE No . . . . .

1. Where does the patient reside?
2. Are there other cases of diphtheria in the same house?  
How many?
3. Are there other cases in the neighborhood?  
About how many?
4. Has a case of diphtheria ever occurred in the house in which the patient resides, and if so, how long since?
5. Please state any facts known regarding the exposure of this case to other cases of diphtheria, or bearing on its origin?
6. What is the sanitary condition of the house and surroundings?
7. What measures were used to prevent the spread of the disease?  
(Isolation, disinfection, quarantine of members of the family, private funeral in case of death, etc.)
8. What success in restricting the disease attended these measures?
9. Please give any other facts known of interest in determining the origin of this case, or manner of spreading the disease.

Residence.

Date.

Name.



## TYPHOID FEVER.

*CASE No . . . . .*

1. Where does the patient reside?
2. Are there other cases of this disease in the same house?  
How many?
3. Are there other cases in the neighborhood?  
About how many?
4. Has a case of typhoid fever ever occurred in the house in which the patient resides, and if so, how long since?
5. Please state any facts known regarding the origin of this case:
6. Whence is the drinking water, used by the patient, obtained?
7. Is this water liable to contamination from any privy-vault, cess-pool or other source?
8. Were the stools of the patient disinfected, and how?
9. Please give any other facts known of interest in determining the origin of this case, or manner of spreading the disease.

Residence.

Date.

Name.

## SCARLET FEVER.

*CASE No . . . . .*

1. Where does the patient reside?
2. Are there other cases of this disease in the same house?  
How many?
3. Are there other cases in the neighborhood?  
About how many?
4. Has a case of scarlet fever ever occurred in the house in which the patient resides, and if so, how long since?
5. Please state any facts known regarding the exposure of this person to other cases of scarlet fever, or bearing on its origin.
6. What measures were used to prevent the spread of the disease?  
(Isolation, disinfection, quarantine of members of the family, private funeral in case of death, etc.)
7. What success in restricting the disease attended these measures?
8. Please give any other facts known of interest in determining the origin of this case, or manner of spreading the disease.

Residence.

Date.

Name.

Dr. Lee, of Pennsylvania, in reply to the first question, said he was compelled to answer in the negative. Pennsylvania, he regretted to say, was still entirely without a thorough system of sanitary organization. The first intelligence received by the Board was usually through the public press, although it occasionally happened that the local

authorities—as for instance, the burgesses of a borough—would make early application for the assistance of the Board, or that an intelligent physician would rise to the emergency of the occasion and send prompt notice. The Board made strenuous efforts during the past winter to obtain the passage of a law which would have made prompt notification from every nook and corner of the State entirely feasible. This contemplated the appointment by the State Board of a health officer in every township. These officers, acting conjointly with a county health officer, were to form a board of health for each county. But all were to be directly responsible to the State Board. The plan appeared simple and thoroughly practical, but the Legislature failed to appreciate its necessity. In the absence of any such legal provision the Board had soon after its organization divided the State into inspection districts, of which there were fifteen, each including about four counties. On receiving, whether through the public press or whatever medium, intelligence of the unusual prevalence of a contagious disease the inspector of a district was immediately notified by telegram or mail, as the urgency of the case appeared to demand, to proceed to the point, investigate the truth of the rumors, and report to the Secretary. If the report was such as to warrant stringent measures, the Secretary conferred upon the inspector full power of isolation, quarantine, and disinfection for this particular outbreak; and if, in the judgment of the inspector, the case demanded it, the Secretary himself proceeded to the place and assumed the direction of the precautionary measures. He abstained from interference, however, wherever it was possible, believing it better for people to manage their own affairs. In fact, he had found that the rural population, acting through local authorities, either the directors of the poor or some of the township officers, had a rough-and-ready way of their own of dealing with small-pox. He could not find a shadow of statutory authority for it, and yet they did not hesitate to declare and enforce quarantine in the strictest manner. He found the local authorities, however, always glad to receive the advice and coöperation of the central board. His custom, in reference to the important matter of educating the people by means of circulars, was to give each circular a free distribution at the time of its issue, acting through local boards of health, civil or borough authorities, and board of education. The last named instrumentality he considered a very important one, especially when information was to be imparted in reference to the disease of childhood. After this first distribution circulars were reserved for emergencies and placed where they would do the most good.

Dr. C. H. Fisher, Secretary of the State Board of Rhode Island, said that it was hardly possible for the small-pox to get large prevalence in Rhode Island, because of the large proportion of the citizens who were protected by vaccination. The statutes required every

town to provide gratuitous vaccination every year for all persons, and all children entering the public schools for the first time, or from abroad, were required to show a certificate from a reputable physician that the individual had been successfully vaccinated as a protection from small-pox. Prompt notification had been given the State Board of the existence of small-pox, and town and city health officers had been of late years equally prompt in measures for restriction and prevention. All the town health officers have mandatory powers by authority of the statutes, for immediate action upon the occurrence of cases of small-pox, cholera, or yellow fever, or other circumstances greatly endangering the public health. Notice is not given the State Board, by requirement of law, of the prevalence of diphtheria or scarlet fever, but is given voluntarily, or when advice is sought or opinions desired in regard to cause and methods of restriction. In point of fact, notice is usually given in cases of epidemic prevalence of all diseases. Ordinances exist in most of the towns requiring the exclusion of children residing in houses where contagious disease prevails from attendance at school, and the closing of the schools by order of the health officer, when deemed expedient, during epidemic prevalence of contagious diseases.

**SOUTH CAROLINA.**—Dr. F. F. Gary said that the State Board did not receive prompt notification of all the infectious diseases occurring in the State, and did not usually send experts when it was notified. In extraordinary cases investigation was made of the facts by some member of the Board and circulars were distributed containing the latest and best advice as to "What to Do" when such diseases prevail and how to prevent this spread.

**TENNESSEE.**—Dr. J. B. Lindsley, Secretary of the State Board, said his Board must reply in the negative in regard to receiving prompt notification and sending reports. But when informed of the prevalence of infectious diseases in special localities much dependence was placed upon sending appropriate circulars containing the necessary information for the guidance of local authorities and the friends.

**VERMONT.**—Dr. C. L. Allen said: In each township in the State of Vermont there exists a body of men, termed *selectmen*, consisting of three or five, to whom the general interests of each township are intrusted. These are, in reality, local boards of health. They are clothed with authority to act whenever small-pox or any contagious or infectious disease may exist in the community. They have power to abate nuisances, and to make any regulations they see fit in regard to the removal or prevention of the causes of disease, or that may have an influence upon public health. These duties, however, have almost universally been neglected. The selectmen have usually confined their actions to the financial and other material, but less important interests of their respective townships.



At its last session, the State Legislature created a State Board of Health, entrusting to it certain duties, but clothing it with no authority. This Board has been organized but a few months. The first official act was to issue a circular to the selectmen, calling attention to their duties in regard to the public health. And it is gratifying to see that some impression has been made. A certain number are asking for more definite and detailed directions as to the regulations which they ought to make. And it is to be hoped that when we get into good running order, the selectmen, the real local Boards of Health, will act in concert with the State Board, and send in promptly information as to the condition of public health in all parts of the State.

I make these preliminary remarks that the National Conference may understand the reason why the Vermont Board has, as yet, never received notice of the existence of contagious diseases in any part of the State. Hence, of course, we have never had occasion to send anyone to investigate such cases.

I may state, however, that if I should hear, directly, or otherwise, that small-pox, scarlatina, diphtheria, measles or typhoid fever was extensively or severely prevailing in any locality, I should consider it my duty to visit that place at once for the purpose of advising with the selectmen.

Upon the question of [the receipt of prompt notification of the occurrence of diphtheria and other specified diseases, and as to just what is done by each State Board of Health on receiving notice of the existence of one of such specified diseases, Dr. J. T. Reeve, of Wisconsin, said :

Wisconsin has an organization such as is necessary to secure the notification of contagious disease in the manner contemplated in this question. Under our laws a local board of health must be organized in every town, village and city in the State; all physicians must report to the local boards which have jurisdiction of the places in which such diseases exist, all cases of three of the diseases named in this inquiry, namely: diphtheria, small-pox and scarlet fever; and the local boards must in their turn report to the State Board. Typhoid fever is not specifically mentioned in the law as one of the diseases to be reported, but the State Board of Health has power to add to the list any disease that it may by resolution declare to be dangerous and contagious. Our machinery for obtaining reports is therefore good, and practically, I believe we are notified of the occurrence of these diseases in a large proportion of instances. A question that we frequently ask of local health boards is whether physicians are prompt in giving notice of the appearance of such diseases as the law requires, and the answer to this question is generally such as to make us feel that good, and progressively good—though in many cases far from perfect—work is being done in this direction.



With reference to sending experts to localities where such diseases exist, it would, as a rule, be wholly impracticable so to do, often unnecessary, and probably often unwise. When, however, circumstances have seemed to require it, the Secretary, or some member of the Board, has visited the infected locality, and, with the local authorities, has investigated the causes of the origin or continuance of the disease, and has advised as to the proper or practicable means for its control or arrest. We believe it wise to work as much as possible by means of the local boards of health.

On receiving such notices they are first systematically recorded in our books, after which their receipt is courteously acknowledged, with thanks for promptness and completeness, where such thanks are due, with effort to secure promptness and completeness in future reports where there has been manifest delay in the one respect or lack in the other, and with special letters of advice or encouragement to the local board where this seems necessary or desirable. In all cases we supply the local board liberally with circulars for general distribution, treating of the nature and management of the particular disease that may be prevalent at the time in the locality, and we endeavor also to utilize the local press by securing the republication of such circulars through its means. Finally and chiefly, taking advantage of the prevalence of disease in any locality and using it as a text, we endeavor to educate both the local boards of health and the public in matters of general and special sanitation, and to create and build up that public sentiment in favor of the enactment and enforcement of sanitary laws, without which the simple existence of such laws upon the statute books has and can have no value whatever.

Dr. Bryce, replying for the Province of Ontario, said : The methods in practical operation in Ontario are very similar to those indicated by the last two speakers. Since 1884 there has practically been in every township a local board, with powers extended to it by Provincial statute, and with further powers under a by-law, common to all, but liable to amendment by the municipal council. The powers of the local boards are extensive and ample for dealing with all forms of infectious disease, but experience has taught us that the very occasional outbreaks in the less populous municipalities, and ignorance of the duties which by law are imposed upon them, have frequently prevented boards from taking such prompt action as the case demanded.

The result has been that from the year 1884 amendments have yearly been adopted by the Legislature at the suggestion of the Board, which have made the relations between local boards and the Provincial Board most intimate. In small-pox, etc., it has been the duty of medical health officers (who have to be appointed where non-existent in a municipality, within five days after an order to appoint them has been laid upon the local board, the alternative being their appoint-

ment by the Provincial Board at the expense of the municipality) to carry out the local laws and any special regulations which may be adopted by the Provincial Board. To complete this close relationship between the central executive and the local executive the clause of the Health Act prescribing the duties of the Provincial Board was amended in 1887 by the following clause :

6. Section 3 of the act passed in the forty-fifth year of Her Majesty's reign, chapter 29, is amended by inserting after the word "disease," in the fourteenth line, the following: "They shall enquire into the measures which are being taken by local boards for the limitation of any existing dangerous, contagious, or infectious disease, through powers conferred upon said local boards by any Public Health act, and should it appear that no efficient measures are being taken and that the said powers are not being enforced, it shall be competent for the Provincial Board, in the interests of the public health, to require the local board to exercise and enforce any of the said powers which, in the opinion of the Provincial Board, the urgency of the case demands; and in any such case where the local board, after request by the Provincial Board, neglect or refuse to exercise their powers, the Provincial Board may, with the approval of the Minister of the Department under which the Board is for the time being acting, exercise and enforce, at the expense of the municipality, any of the powers of local boards which, under the circumstances, they may consider necessary."

A very general consent is yielded to these provisions of the law, and we are endeavoring, under the *agis* of this clause, to force the general adoption of thorough inspection of milk and meat by the large municipalities, and to still further protect the public against the introduction of diphtheria by these sources. We recommend this line of action to the various State Boards, with regard to obtaining increased powers.

The next question taken up for consideration by the conference was the following: What are the best methods for securing sanitary legislation?

Dr. Baker said that he thought it useful to remember that each member of the Legislature is elected by a comparatively small proportion of the people in the State—the people living in one representative or senatorial district. The legislators represent the interests of the people in their own districts, and are not elected to represent the great general interests of the State, concerning which some of them have given little thought except as brought to their attention by the supposed interests of their constituents. Therefore, in order to secure the attention of legislators it is, as a rule, necessary that the subject shall be of interest to their own constituents, and when a proper subject is properly placed before a legislator by one or more of his own constituents, his experience is that the legislator usually

gives the subject respectful consideration, and his support, if the proposition is not inconsistent with his convictions. In Michigan there are a large number of health officers and other persons interested in sanitary progress, and when these persons in different parts of the State use their influence upon their respective members of the Legislature, it has force. Sanitary conventions spread, among the people of localities where they are held, an influence which acts for good whenever legislation is proposed affecting the sanitary interests of the people of the State.

Dr. Lee said that defeat might perhaps teach a lesson where victory failed to instruct. The experience of the past winter had convinced him that one of the most important methods of obtaining legislation was to secure the interest and coöperation of a leader in each House. It will not do to depend on educating the people to a point where they would demand legislation in the interest of the public health. The process is too slow. The legislation itself must educate the popular mind. The Pennsylvania Board had the good fortune to obtain the services of a prominent and intelligent member of the House of Representatives, and under his able leadership all their measures passed that body. In the Senate, however, they were not successful in securing a champion, and the consequence was, that not a single one of their acts went through, except such as were absolutely essential to the continued existence of the Board. One single, strong man whom the mass of legislators are in the habit of following, is worth twenty who do little less than vote.

Dr. J. N. McCormack, of Kentucky, said: "Our Board submits this question to the conference because its members feel that they need information on the subject. Much better results have attended efforts to secure medical and sanitary legislation in some of the other States, and we have felt that there must be something in the methods employed, or in the attending circumstances, to account for this success. Formerly, our opposition came chiefly from members of the medical profession, but this source of trouble has been almost entirely removed. This grew almost entirely out of the fear which possessed the medical colleges of the country a few years ago that legislation would go too far in regulating the practice of medicine. Frank conferences with representatives from the schools, and a perfect understanding between them and us as to what was to be desired and what avoided, readily secured their coöperation, as well as that of the medical press, which is, of course, largely influenced by school interests.

A general outline of proposed new legislation is now sent to the various county boards and leading physicians throughout the State in advance of the meeting of the Legislature, in order that members of that body may have the opinion of their home physician as to the merits of such legislation. The bills are then submitted to leading



members of the two Houses for criticism and suggestions, in order that they may be as complete and free from objection as possible before they are offered or printed. We have succeeded much better with these methods in latter years, but our laws are still very defective on many points, and we will be very thankful for suggestions from gentlemen present, who have had large and successful experience in practical dealings with this subject, which will make anything coming from them in regard to it of the highest value.

Dr. W. L. Schenck, of Kansas, said: The best methods of securing sanitary legislation doubtless differs somewhat in different States. Having almost wholly failed in Kansas, we are anxious to learn the secret of success.

We recognize that our first difficulty is with the medical profession. For example, the State society of one school of medicine (eclectic), resolved not long ago "that legislation on sanitary subjects is timely when the people demand it," and in all schools there seem to be those who think with the silversmith of Ephesus, who made shrines for Diana, "by this craft we have our wealth." Even among the better informed and more honorable physicians there is a lukewarmness that evidences a want of appreciation of the importance of preventive medicine and the relation of the profession to the public. We must educate the profession.

The average legislator is superior to education. The moment he has received the franchises of his district he springs, like Minerva from the brain of Jupiter, fully fledged, and is indignant at the intimation that there is anything he does not fully comprehend, and is even suspicious of his family physician if he suggests sanitary legislation. I met a fair example of this kind of legislators a few weeks ago. The Hon. F. was spoken to by a member of this State Board of Health, when he replied "Oh, — —! don't bore me about that. When I was in the Senate a set of d—d cranks bored me to death." The cranks were a committee of the most intelligent sanitarians in the State. The Senator couldn't tell the difference between carbonic acid gas and oxygen.

Education must go back of the legislator and teach the people the vital importance of sanitary law. Sanitary science must be taught more thoroughly in our medical schools, and through the physician come to the public school and the people.

It is so poorly comprehended that even in those States where State Boards of Health are established and sanitary laws enacted they stand on sandy foundations.

Dr. F. F. Gary, of South Carolina, in replying to the question, "What are the Best Methods of Securing Sanitary Legislation?" said: Through organized health boards. I believe in thorough organization of National, State and Municipal Boards of Health. As medical



men are the most advanced and best acquainted with sanitary science let them, wherever there is a medical society or association, *organize* and secure a State Board of Health, then local boards. Now let each State Board coöperate in securing a National Board, under the sanction of Congress, with authority to act in conjunction with State Boards of Health. After a State Board is organized let the people be educated to the extent of their ability, because every industry, as well as our material prosperity, is largely dependent upon public health. Let them be taught that public health means much more than sewerage or inspection. It embraces our whole physical existence. And let each Board discuss what sanitary laws are needed and call the attention, *through one of their members of the Legislature*, to their wants. It is astonishing how much ignorance exists among the average legislators and how reluctant they are to appropriate money for such an object. We must educate them and be able to show the importance of such legislation. If we can succeed in electing some of our profession to the Legislature so much the better. A few members can wield a great influence in shaping appropriate legislation if they are in earnest. We want a National Board to whom can be referred all matters of a National character, such as regulations for quarantine that would protect the public health with the least injury to vested rights and commercial enterprises; something uniform in action and effective in its results.

Dr. Henry B. Baker, for the committee appointed to draft a constitution and by-laws for the conference, made a brief verbal report and submitted the following recommendation which was by unanimous vote approved in this resolution :

*Resolved*, That representatives of State Board of Health which have no appropriations and consequently are inactive, be assured that they will be cordially welcomed to join with us in our deliberations, and will not be expected to contribute funds for the maintenance of this organization.

#### Report of Committee on Obituary Resolutions.

The committee to which was assigned the grateful duty of preparing resolutions of respect to the memory of members of State Boards of Health deceased during the past year, begs leave respectfully, to report the following resolutions :

*Resolved*, That, in the death of Dr. Edward William Germer, late President of the State Board of Health of Pennsylvania, this conference has been deprived of the services and counsel of one whose wise and emphatic utterances were always listened to with pleasure and respect.

*Resolved*, That few sanitarians in this country were more thoroughly versed in the principles and imbued with the spirit of hygienic reform.

*Resolved*, That the entire devotion of his time and energies to his

duties as health officer of his own city, and as member of the State Board of Health of his State often to the injury of his private interests, and there is reason to fear, with the result of shortening his days, the noble courage with which he faced epidemics, acting, as has been well said in one instance, as "health officer, physician, nurse and undertaker," commend him as representing the highest type of the practical sanitarian and the christian citizen.

*Resolved*, That this conference desires to extend to the State Board of Health of Pennsylvania, its appreciation of the loss sustained in the death of so valuable a member—and to the family of the deceased, its sincere sympathy with them in the bereavement of one whose kindly nature and ready sympathies so endeared him to all who knew him.

*Resolved*, That in the recent death of Dr. D. W. Stormont, of the State of Kansas, preventive medicine has lost a warm friend and an earnest supporter.

*Resolved*, That in their great loss we sympathize with his family, his co-laborers of the Kansas State Board, and the Commonwealth of Kansas.

JOHN S. RAUCH,  
W. L. SCHENCK,  
BENJ. LEE,

*Committee.*

Report to the International Conference of State Boards on Notification  
of Infectious Disease.

Your committee begs leave to report the following:

*Resolved*, 1. That the conference reaffirms the principles contained in the resolutions adopted by it at its meeting in Toronto, in 1886.

2. That the communicable diseases hereinafter mentioned, prevalent in certain areas or which tend to spread along certain lines of travel, be reported to all State and Provincial Boards within said area or along said lines of communication.

3. That in the instance of small-pox, cholera, yellow fever and typhoid fever, reports be at once forwarded, either by mail or telegraph, as the urgency of the case may demand; and further that in the instance of diphtheria, scarlatina, typhoid fever, anthrax or glanders, weekly reports, when possible, be supplied, in which shall be indicated, as far as known, the places implicated and the degree of prevalence.

All of which is respectfully submitted.

PETER H. BRYCE,  
HENRY B. BAKER,  
J. BERRIEN LINDSLEY,  
BENJ. LEE,  
J. T. REEVE,  
E. M. HUNT,

*Committee.*

The report having been read it was decided that the vote, on its adoption, be taken by States. The vote being so taken was unanimous in its favor by all the States and Provinces represented by delegates present.

The following resolution, offered by Dr. Reeve, of Wisconsin, and amended by Dr. Lee, of Pennsylvania, was adopted :

*Resolved*, That the secretary of this Conference be requested to send copies of the resolution on inter-State notification of contagious diseases to the executive officers of all Boards of Health belonging to this conference, and to request from each of such Boards not here represented a vote upon the same for record as an appendix to the minutes of this meeting.

Henry B. Baker, A. M., M. D., Secretary of the Michigan State Board of Health, reported on the "New Means" of restricting dangerous communicable diseases as follows:

At the meeting of the conference of State Boards of Health in Toronto, in 1886, I had the honor of reporting on the subject of "Success in Restricting Communicable Diseases," and in doing so dwelt mainly upon the work with which I was most familiar, namely: That in Michigan. The success in Michigan seemed to me to be proved by the record of deaths reported to the Secretary of State. Incidentally it appeared that the success was greater under one method than under another method of work; therefore, the most complete and successful method was mentioned, whereupon Dr. Hewitt, of Minnesota, said: "That if it was true that there had been a diminution in disease in Michigan since the organization of the State Board of Health, owing to the distribution of circulars and other documents, then there was a new means of prevention."\* Dr. Hewitt said he "thought the distribution of circulars was not of so much account as the distribution of men." Although I do not suppose that at present there is a State in this Union where there is sent to localities where communicable diseases occur such a distribution of men able to give the specific information contained in any one of the several documents issued by one of our State Boards of Health, yet Dr. Hewitt's remark appears worthy of further consideration, and I have collected a few facts and thoughts bearing upon the proposition indicating about the number of men required in Michigan to carry into effect the "distribution of men" suggested by Dr. Hewitt.

---

\* See page 53 of Proceedings of Conference at Toronto.

TABLE I.

Number of Places in Michigan at Which Communicable Diseases were Reported Present During Each Week in 1886.

Week ending	Diphtheria.	Scarlet fever.	Typhoid fever.	Measles.	Small-pox.
January 9,	26	9	2	1	0
16,	28	18	3	3	0
23,	25	25	3	5	0
30,	23	18	6	4	0
February 6,	28	22	4	7	0
13,	23	31	5	5	0
20,	28	24	4	3	0
27,	17	16	3	3	0
March 6,	17	22	5	3	0
13,	13	17	5	1	0
20,	16	16	6	4	0
27,	15	14	3	7	0
April 3,	16	14	5	4	0
10,	18	15	3	6	0
17,	18	12	1	3	0
24,	18	13	1	5	0
May 1,	17	15	2	5	0
8,	21	11	4	9	0
15,	18	14	3	9	0
22,	20	15	4	9	0
29,	23	22	2	8	0
June 5,	22	24	2	6	1
12,	13	16	2	8	2
19,	19	15	1	5	1
26,	14	14	4	6	2
July 3,	11	12	2	3	2
10,	16	13	6	1	2
17,	12	9	6	4	2
24,	19	9	8	5	2
31,	16	10	9	6	2
August 7,	14	13	11	5	2
14,	23	11	14	7	2
21,	15	12	16	5	2
28,	20	12	21	5	2
September 4,	21	9	17	8	3
11,	23	11	21	5	1
18,	28	12	24	6	1
25,	28	12	19	7	1
October 2,	27	12	23	3	1
9,	26	16	20	3	1
16,	26	20	19	5	1
23,	42	18	20	3	1
30,	36	21	15	4	1
November 6,	25	20	18	6	1
13,	33	17	23	9	1
20,	32	19	19	4	1
27,	34	21	11	4	1
December 4,	41	23	15	6	1
11,	30	14	11	6	1
18,	24	15	11	6	1
25,	29	21	10	4	0
1887.					
January 1,	23	13	6	10	0
Total, . .	1,170	827	478	269	42
Av. per week,	22½	15 ⅞	9 ⅞	5 ⅞	⅙

Taking the sum of the averages in Table I, as representing the total number of places in which communicable diseases were reported each week, we have a total of fifty-four places per week, at which one or more of the diseases were reported present. This shows too many



places, however, as at Detroit and a few other places two of these diseases are present nearly all of the time, and a health officer is acting, more or less all the time.

Selecting a few weeks as typical of the different seasons of the year, I have prepared the Table II, to show the number of *different* places at which the diseases were reported present, counting each locality but once. Thus the places at which scarlet fever, typhoid fever, measles, and small-pox are reported are each additional to and distinct from those reporting diphtheria or any other communicable disease.

TABLE II.  
Average Number of Places Where Communicable Diseases were Reported in 1886.

Weeks ending	Diphtheria.	Scarlet fever.	Typhoid fever.	Measles.	Small-pox.	Total.
January 16,	28	13 additional	1 additional.	1 additional.	0 additional.	43
June 19,	19	11 "	0 "	2 "	1 "	33
October 16,	26	14 "	16 "	1 "	0 "	57
December 18,	24	9 "	6 "	2 "	0 "	41
Totals, .	97	47 additional.	23 additional.	6 additional.	6 additional.	174
Averages, . .	24 $\frac{1}{4}$	11 $\frac{1}{4}$ "	5 $\frac{1}{4}$ "	1 $\frac{1}{4}$ "	$\frac{1}{4}$ "	43 $\frac{1}{4}$

Table II shows an average for each week of forty-three separate and distinct places at which one or more of these communicable diseases were reported present; and this number, forty-three, divided by the number of places which an expert could in each week visit and perform his service, will indicate the number of experts which would have been required for the proposed "distribution of men" in Michigan in 1886. The localities are somewhat widely scattered; but perhaps, an expert might visit and act at four places per week, in which case eleven men would thus be constantly employed. One question bearing upon Dr. Hewitt's proposition is the expense; another question is one in social science, namely: Whether it is best for a central office to do the main work of combating contagious diseases or whether it is best that each locality should be trained to do this for itself. To this last question I have no hesitation in saying that, in my opinion, it is best to teach the localities to do this for themselves. But if the central office can afford the expense, it may be practicable, and if so, it seems to me it would be very useful to so far adopt Dr. Hewitt's suggestion as to have one, or more expert *sanitary inspectors*, constantly traveling from place to place to inspect the work of disinfect-

tion, etc., in the localities. Thus far very little such work has been done in Michigan. We have once had a well-informed health officer visit a distant place to aid in restricting diphtheria, and the disease was restricted. Two or three times we have had an expert visit a locality to aid in restricting small-pox. I have visited a few places to investigate certain communicable diseases; but, as a rule, we have relied upon the mail, the telegraph, and the telephone from the office of the State Board to the local health office, which by law is required to be appointed in every township, city, and village in Michigan, over fourteen hundred organizations in all, the majority of which have complied with the law.

You have probably noticed that the "new means of prevention" treated of in this paper is not altogether the distribution of documents which Dr. Hewitt thus characterized, but it is in great part the "distribution of men" suggested by Dr. Hewitt. Several of our State Boards of Health have distributed documents, and Michigan makes no claim that such distribution is now a new means of prevention; yet we do claim that statistics of sickness and deaths in Michigan in 1886, collected since the last meeting of this conference, conclusively show that there was a large saving of life and health in Michigan in the year 1886 from scarlet fever, and especially from diphtheria, in certain localities where the directions contained in the pamphlets sent and distributed in these localities were carried into effect. This great saving of life and health was, we believe, in a considerable degree, due to the distribution of documents to the neighbors of persons sick as well as to the health officers. If, by means of statistics or otherwise, the "distribution of men" can be shown to promise better results, we should hail it as a great blessing to humanity.

#### Unfinished Business.

Dr. A. G. Young, of the Committee on the Codification of the Health Laws of the Different States and Provinces, made a brief report of progress and the committee was by vote continued.

On call upon the committee on "collective investigation of disease,"

Dr. Fisher said: That when his appointment upon that committee became known to him, he said to himself, that on his part he would endeavor to draw up a statement presenting reasons why a method of collective investigation, such as proposed, might be productive of good results, in the acquirement of further knowledge in relation to the causes, nature and treatment of that most universal and most destructive disease, pulmonary consumption.

This statement to be followed by a series of inquiries, formulated with explanatory remarks, so as to keep clearly in the minds of the practitioners of medicine, to whom such inquiries might be sent, the scope and purpose of the investigation, and that *facts* only should be reported, based on careful observation and experience.

Then to send copies of such paper to each of the other members of the committee for such modification and additions as might be suggested by each, and upon the return of such amended copies to combine the valuable suggestions of all the members in one plan or proposition for report to this conference, and for still further change by the conference as might be deemed best. But few opportunities occurred for giving the subject attention, and short ones at that, but the more it was considered the more important the method became, the field of investigation seemed to lengthen and widen and the scope of inquiry broaden.

The magnitude of constructing a judicious plan for accomplishing the object desired was formidably realized.

How was he to present questions, at once concise and explicit, that should cover the etiology of pulmonary consumption in relation to heredity, to atmospheric conditions as to dryness or humidity, suspension of floating matter, organic or inorganic, rarity or destiny, temperature, altitude and ozone; conditions, topographical and telluric; conditions of society, demographical, occupation, poverty, intemperance, social vices, hard labor, maternity, the question of communicability through organic contagia, etc.?

He then felt that he ought, in justice to the importance of the results to be obtained, and also in justice to himself as in part a proposer of the scheme, to give the subject extended consideration as to time and study, and that decision or sentiment was the rock on which the contemplated project split. No time for such extended study had been allowed him.

He did not make these remarks as an apology for not reporting a matured plan as designated and desired. It was rather a conscientious explanation. For he could say positively and absolutely that he had been incessantly engaged in all the working hours, and also with much encroachment on the hours of sleep and rest since the meeting at Toronto, except when disabled physically and mentally by disease.

No one could regret more than himself the failure to bring before this conference a matured plan for the purpose designed.

Upon motion, Dr. Fisher was excused and the committee continued.

Dr. Baker was asked to report upon "blank forms for uniform system of vital statistics," and stated that the announcement was an error—that at the Toronto meeting he had reported on that subject, and had expressed regret that it was so narrow, whereupon the whole subject of "vital statistics" had been assigned to him. Upon the topic announced for the meeting he had nothing new to report.

On motion, it was voted that Dr. Baker be granted further time to make a report on the subject of vital statistics.

Dr. Baker, of Michigan, moved, and it was voted: That the thanks of the conference be given to Dr. Metcalf, of Indiana, for printing the proceedings of the last conference, in 1886.



Dr. Probst, Secretary of the Ohio State Board, offered to print the proceedings of the present conference on the same terms that they were printed last year.

On motion the offer of Dr. Probst was accepted.

On motion of Dr. Probst, it was voted: That an assessment of five dollars be made on each State Board of Health to defray the expenses of the conference for the ensuing year.

The conference next proceeded to the election of officers, which resulted as follows:

For president, Dr. J. N. McCormack, of Kentucky.

For secretary, Dr. C. A. Lindsley, of Connecticut.

#### The Next Place of Meeting.

Dr. Sharp, of Ohio, gave a cordial invitation to the conference to hold its next meeting in Cincinnati of that State, and moved that it be held in June, on the first Tuesday, at the time of the meeting of the American Medical Association.

After debate it was voted: That when this conference adjourns it will meet at Cincinnati, Ohio, in June, 1888, on the Friday evening preceding the meeting of the American Medical Association.

Mr. W. D. Anderson addressed the conference on the subject of celebrating the one hundredth anniversary of the Constitution of the United States and the four hundredth of the discovery of America by Columbus.

At the conclusion of his remarks it was voted: That this conference heartily approve of the proposed centennial celebration and extend its thanks to Mr. Anderson for his address.

No further business offering, the meeting adjourned.

#### Sanitary Authorities and Associations of the United States of America and Canada.

##### AMERICAN PUBLIC HEALTH ASSOCIATION.

Dr. Charles N. Hewitt, Red Wing, Minn., president; Dr. Irving A. Watson, Concord, N. H., secretary.

##### NATIONAL CONFERENCE OF STATE BOARDS OF HEALTH.

Dr. J. N. McCormack, Bowling Green, Ky., president; Dr. C. A. Lindsley, New Haven, Conn., secretary.

##### SANITARY COUNCIL OF THE MISSISSIPPI VALLEY.

Dr. John H. Rauch, Springfield, Ill., secretary.

##### UNITED STATES MARINE HOSPITAL SERVICE.

Dr. John B. Hamilton, Washington, D. C.



## STATE BOARDS OF HEALTH.

ALABAMA.—[The Alabama State Medical Association constitutes the State Board of Health.] Mortimer Harvey Jordan, M. D., Birmingham; Job Sobieski Weatherly, M. D., Montgomery; Charles Higgs Franklin, M. D., Union Springs; William Henry Sanders, M. D., Mobile; John Jefferson Dement, M. D., Huntsville; George Augustus Ketchum, M. D., Mobile; Peter Brice, M. D., Tuscaloosa; William Henry Johnston, M. D., Birmingham; Jerome Cochran, M. D., (senior censor), Mobile; Benjamin Hogan Riggs, M. D., Selma; T. A. Means, M. D., secretary.

CALIFORNIA.—Dr. Henry S. Orme, Los Angeles, president; Dr. G. G. Tyrrell, Sacramento, secretary; Dr. James Simpson, 234 Post street, San Francisco; Dr. R. Beverley Cole, 218 Post street, San Francisco; Dr. W. R. Cluness, Sacramento; Dr. C. A. Ruggles, M. D., Stockton; Dr. J. M. Briceland, Shasta.

CONNECTICUT.—Hon. A. E. Burr, Hartford, president; Prof. C. A. Lindsley, M. D., New Haven, secretary; J. S. Butler, M. D., Hartford; Prof. Wm. H. Brewer, New Haven; G. H. Wilson, M. D., Meriden; Hon. E. Johnson, Hartford; R. S. Goodwin, M. D., Thomaston.

DELAWARE.—Dr. Lewis P. Bush, Wilmington, president; Dr. Edmund B. Frazer, Wilmington, secretary; Dr. William T. Skinner, Glasgow; Dr. Ezekiel W. Cooper, Camden; Dr. Albert Whitely, Fredrica; Dr. David L. Mustard, Lewes; Dr. Robert G. Ellegood, Concord.

ILLINOIS.—W. A. Haskell, M. D., Alton, president; John H. Rauch, M. D., Springfield, secretary; W. R. Mackenzie, M. D., Chester; H. V. Ferrell, M. D., Carterville; Newton Bateman, LL. D., Galesburgh; R. Ludlam, M. D., Chicago; A. L. Clark, M. D., Elgin, treasurer.

INDIANA.—Samuel R. Seawright, M. D., Lafayette, president; C. N. Metcalf, M. D., Indianapolis, secretary and executive officer; John N. Taylor, M. D., Crawfordsville; W. A. Fritsch, M. D., Evansville; S. S. Boots, M. D., Greenfield.

IOWA.—Dr. Philip W. Lewellen, Clarinda, president; Dr. J. F. Kennedy, Des Moines, secretary; L. F. Andrews, assistant secretary; Andrew J. Baker, Attorney General, ex-officio; M. Stalker, State veterinary surgeon, Ames, ex-officio; Dr. J. C. Shrader, Iowa City; Dr. Wilmot H. Dickinson, Des Moines; Dr. S. B. Olney, Fort Dodge; Dr. Jay D. Miller, Ida Grove; Dr. Ephriam M. Reynolds, Centreville; Henry H. Clark, McGregor; James L. Loring, C. E., Dallas Center.

KANSAS.—Dr. G. H. T. Johnson, Atchison, president; Dr. J. W. Redden, Topeka, secretary; Dr. C. H. Guibor, Beloit; Dr. D. Surber, Perry; Dr. D. C. Jones, Topeka; Dr. J. Milton Welch, Wichita; Dr. H. S. Roberts, Manhattan; Dr. J. W. Jenny, Salina; Dr. W. L. Schenck, Osage City; Dr. J. F. Lewis, Howard.

KENTUCKY.—Dr. Pinckney Thompson, Henderson, president; Dr.

J. N. McCormack, Bowling Green, secretary; Dr. Robert Walker, Scottville; Dr. J. O. McReynolds, Elkton; Dr. C. A. Mayer, Louisville; Dr. J. A. Lucy, Georgetown; Dr. J. M. Poyntz, Richmond.

LOUISIANA.—Dr. Joseph Holt, New Orleans, president; Dr. L. F. Salamon, New Orleans, secretary; Charles E. Kells, D. D. S., New Orleans; Dr. Ludwig H. Van Gohren, New Orleans; Dr. Samuel R. Oliphant, New Orleans; Hon. Joseph A. Shakspeare, New Orleans; Joseph Kohn, Esq., New Orleans; John J. Barr, Esq., New Orleans; Dr. C. P. Wilkinson, New Orleans; John J. Mellon, Esq., New Orleans.

MAINE.—Dr. Frederic H. Gerrish, Portland, president; Dr. A. G. Young, Augusta, secretary; Hon. Lewis Barker, Bangor; Hon. Stephen J. Young, Brunswick; Dr. O. A. Horr, Lewiston; E. C. Jordan, C. E., Portland; Dr. J. O. Webster, Augusta.

MARYLAND.—Dr. Jackson Piper, Towson, president; Dr. C. W. Chancellor, Baltimore, secretary and executive officer; J. Crawford Neilson, C. E., Baltimore; Dr. J. M. H. Bateman, Easton; Dr. John Morris, Baltimore; Dr. James A. Steuart, health commissioner of Baltimore city, ex-officio; Hon. Wm. Pinckney Whyte, Attorney General, ex-officio, Baltimore.

MASSACHUSETTS.—Henry P. Walcott, M. D., Cambridge, chairman; Samuel W. Abbott, M. D., Boston, secretary; Elijah U. Jones, M. D., Taunton; Julius H. Appleton, Springfield; Thornton K. Lothrop, Esq., Beverly Farms; Frank W. Draper, M. D., Boston; Hiram F. Mills, C. E., Lawrence; Theodore C. Bates, Worcester; F. P. Stearns, C. E., engineer.

MICHIGAN.—Dr. John Avery, Greenville, president; Dr. Henry B. Baker, Lansing, secretary; Dr. Arthur Hazlewood, Grand Rapids; Dr. Victor C. Vaughan, Ann Arbor; Dr. C. V. Tyler, Bay City; Dr. Henry F. Lyster, Detroit; Dr. John H. Kellogg, Battle Creek.

MINNESOTA.—Dr. D. W. Hand, St. Paul, president; Dr. Charles N. Hewitt, Red Wing, secretary; Dr. V. Smith, Duluth; Dr. Franklin Staples, Winona; Dr. E. J. Davis, Mankato; Dr. Ch. Gronvold, Norway; Dr. W. H. Leonard, Minneapolis.

MISSISSIPPI.—Dr. E. P. Sale, Aberdeen, president; Dr. Wirt Johnson, Jackson, secretary; Dr. F. W. Dancy, Holly Springs; Dr. B. F. Ward, Winona; Dr. J. M. Taylor, Corinth; Dr. W. F. Hyer, Holly Springs; Dr. John Wright, Sardis; Dr. S. V. D. Hill, Macon; Dr. B. F. Kittrell, Black Hawk; Dr. J. H. Blanks, Meridian; Dr. J. P. Moore, Yazoo City; Dr. Robert Kells, Jackson; Dr. J. W. Bennett, Brookhaven; Dr. R. T. Edwards, Vicksburg; Dr. R. S. Toombs, Greenville.

MISSOURI.—Dr. Wm. Gentry, Sedalia, president; Dr. Albert Merrel, St. Louis, vice president; Dr. George Homan, St. Louis, secretary; J. D. Griffith, Kansas City, treasurer; Dr. George M. Cox, Springfield; James B. Prather, Maryville; Dr. G. A. Goben, Kirksville.

NEW HAMPSHIRE.—Dr. Granville P. Conn, Concord, president; Dr.

Irving A. Watson, Concord, secretary and executive officer; Governor Charles H. Sawyer, Dover, ex officio; Hon. James A. Weston, Manchester, Attorney General; Hon. Daniel Barnard, Franklin, ex-officio; Dr. William H. Bragdon, North Conway.

NEW JERSEY.—Prof. C. F. Brackett, LL. D., Princeton, president; Dr. Ezra M. Hunt, Trenton, secretary; F. A. Osborn, C. E., recording clerk, Middletown; Hon. Henry C. Kelsey, Secretary of State, ex officio; Hon. John P. Stockton, Attorney-General, ex officio; George H. Cook, State Geologist, ex-officio; Dr. Laban Dennis, Newark; Dr. Franklin Gauntt, Burlington; Prof. A. R. Leeds, Ph. D., Hoboken; Edward R. O'Reilly, M. D., Elizabeth.

NEW YORK.—State Commissioners of Health appointed by the Governor and Senate.—Thomas Newbold, Hyde Park, Dutchess county; William E. Millbank, M. D., Albany, N. Y.; Thomas S. Dawes, M. D., Saugerties.

Appointed by the Governor from the Health Commissioners in Cities.—Maurice Perkins, M. D., Schenectady, N. Y.; Alfred Mercer, M. D., Syracuse; Joseph D. Bryant, M. D., New York.

Ex-officio Members.—Wm. M. Smith, M. D., health officer of New York quarantine, Staten Island; Denis O'Brien, Attorney General.

Officers of the Board.—Thomas Newbold, Hyde Park, Dutchess county, president; Dr. Lewis Balch, Albany, secretary; Frederick Carman, Albany, assistant secretary.

State Superintendent of Registration and Vital Statistics.—Dr. Lewis Balch, as secretary of the Board.

NORTH CAROLINA.—Dr. J. W. Jones, Tarboro', president; Dr. Thomas F. Wood, Wilmington, secretary and treasurer; Dr. R. H. Lewis, Raleigh; Dr. John McDonald, Washington; Dr. W. D. Hilliard, Asheville; Prof. W. G. Simmons, Wake Forest; Arthur Winslow, C. E., Raleigh; Dr. H. T. Bahnson, Salem; Dr. J. H. Tucker, Henderson.

OHIO.—Dr. John D. Jones, Cincinnati, president; Dr. C. O. Probst, Columbus, secretary; Dr. Simon P. Wise, Millersburg; Dr. D. H. Beckwith, Cleveland; Dr. Thomas C. Hoover, Columbus; Dr. H. J. Sharp, London; Dr. W. H. Cretcher, Bellfontaine; Prof. E. T. Nelson, M. A., Ph. D., Delaware; Hon. D. H. Watson, Attorney General, ex-officio, Columbus.

PENNSYLVANIA.—Dr. David Engelman, Easton, president; Dr. Benj. Lee, Philadelphia, secretary; Dr. Pemberton Dudley, Philadelphia; Dr. J. F. Edwards, Philadelphia; Howard Murphy, C. E., Philadelphia; George G. Groff, Lewisburg; Dr. J. H. McClelland, Pittsburgh.

RHODE ISLAND.—Dr. H. E. Turner, Newport, president; Dr. C. H. Fisher, Providence, secretary; Dr. P. S. Redfield, Providence; Dr. A. G. Sprague, River Point; Dr. T. H. Shipman, Bristol; S. M. Gray, C. E., Providence; Dr. H. W. Rose, Westerley.



**SOUTH CAROLINA.**—Dr. J. R. Bratton, Yorkville, chairman; Dr. T. Grange Simons, Charleston, vice chairman; Dr. H. D. Frazer, Charleston, secretary; Dr. J. Ford Priolieu, Charleston; Dr. P. A. Wilhite, Anderson; Dr. C. R. Taber, Fort Motte; Dr. James Evans, Florence; Hon. J. H. Earle, Attorney General; Hon. J. S. Verner, Comptroller General.

**TENNESSEE.**—J. D. Plunket, M. D., Nashville, president; James M. Safford, Nashville, vice president; J. Berrien Lindsley, M. D., secretary and executive officer; Hon. E. W. Cole, Nashville; G. B. Thornton, M. D., Memphis; Hon. D. P. Hadden, Memphis; P. D. Sims, M. D., Chattanooga; Daniel F. Wright, M. D., Clarksville.

**TEXAS.**—Dr. R. M. Swearingen, Austin, State Health Officer.

**VERMONT.**—Dr. A. H. Chesmore, Huntingdon, president; Dr. C. L. Allen, Rutland, secretary; Dr. J. H. Hamilton, Richford.

**WISCONSIN.**—Dr. Solon Marks, Milwaukee, president; Dr. J. T. Reeve, Appleton, secretary; Dr. G. F. Witter, Grand Rapids; Dr. Knut Hoegh, La Crosse; Dr. B. O. Reynolds, Lake Geneva; Prof. W. W. Daniells, Madison; Dr. S. C. Johnson, Hudson.

**WEST VIRGINIA.**—Dr. C. T. Richardson, Charleston, president; Dr. T. A. Harris, Parkersburgh, secretary; Dr. N. D. Baker, Martinsburg; Dr. W. M. Late, Bridgeport; Dr. G. I. Garrison, Wheeling; Dr. G. McDonald, Union; Dr. W. P. Ewing, Charleston; Dr. A. R. Barbee, Pt. Pleasant.

**PROVINCIAL BOARD OF ONTARIO.**—Dr. Francis Rae, Oshawo, chairman; Dr. Peter H. Bryce, Toronto, secretary; Dr. Charles W. Covern-ton, Toronto; Dr. Horace P. Yeomans, Mount Forest; Dr. John J. Cassidy, Toronto; Dr. H. M. Mackay, Woodstock; Dr. J. D. MacDonald, Hamilton.

**PROVINCIAL BOARD OF QUEBEC.**—E. P. Lachapelle, M. D., Montreal, president; Elzear Pelletier, M. D., Montreal, secretary; Remi F. Rinfret, M. D., Quebec; Henry R. Gray, L. P., Montreal; C. E. Lemieux, M. D., Quebec; J. B. Garneau, M. D., Ste. Anne de la Pevade; R. L. Macdonnell, M. D., Montreal; Hon. A. P. Paquet, M. D., St. Cuthbert.

**OHIO STATE SANITARY ASSOCIATION.**—Prof. E. T. Nelson, A. M., Ph. D., Delaware, president; Dr. R. Harvey Reed, Mansfield, secretary.



## APPENDIX F.

---

### CIRCULARS, FORMS AND REGULATIONS.

---

1. Precautions against Typhoid Fever.
  2. Precautions against Diphtheria.
  3. Precautions against Contagious and Infectious Diseases.
  4. Precautions against Scarlet Fever.
  5. Precautions against Trichinosis.
  6. Recommendations in Regard to care of Infants.
  7. To the Medical Profession on Typhoid Fever.
  8. Transit Permit.
  9. Inter-State Notification.
  10. Letter Accompanying Order for Abatement.
  11. Letter in Reply to Private Complaint.
  12. Letter to Physicians Requesting Returns.
  13. Regulation of Travel and Traffic.
  14. Regulation in Regard to Inter-State Notification.
- 

#### I. PRECAUTIONS AGAINST TYPHOID FEVER.

---

Typhoid fever (called also enteric fever, gastric fever, drain fever, low fever, pythogenic fever and, by the Germans, abdominal typhus) is a common and protracted disease, terminating fatally in about one case in eight or ten. We have no statistics for the whole State of Pennsylvania to show how many persons die of this disease each year, but the Secretary of the Michigan State Board of Health thinks that about *one thousand persons* die each year in that State of typhoid fever, and that from eight to ten thousand are yearly sick from the same disease. This would equal *three thousand* deaths, and from *thirty to forty thousand* sick of this fever each year in Pennsylvania, for it is as prevalent here as in Michigan.

A disease which causes so much suffering and the loss of so many lives, should be understood in its nature by all intelligent persons, since sanitarians agree that it is a disease *entirely preventable* under good hygienic conditions.

#### How the Disease is Spread or Communicated.

Typhoid fever is believed to be caused by a special poison (contagium). This poison, whether specific or not, may be conveyed to other persons by drinking water contaminated by discharges from the bowels of a person affected with the disease, or by leachings from

the bodies of those who have died of it. Physicians now believe that *contaminated water* is the most frequent cause of this disease. The contamination must be with the faecal discharges of a person suffering with this disease, or from a graveyard in which persons dead of this disease have been buried. The disease has also been traced to contaminated milk, which has probably had some infected water added to it. In some few cases, it seems that the disease has been produced by breathing the emanations from putrid privies and from sewers. It prevails most in times of drought, in the fall of the year, especially after a period of high temperature, and when the water in wells and springs is low and the contaminations much concentrated. It is a disease constantly present in the fall of the year, in country districts which have been subject to the above conditions. Experience proves that, with ordinary care, those in attendance upon the sick do not contract the disease directly from the patient. The poison in the faecal matter getting upon the nurse's hands may, in this way, be conveyed into the system, but not through the air breathed. Filth and bad sanitary conditions of dwellings probably increase the danger of spreading this fever which has been classed as a "filth disease."

#### Time Required to Develop Typhoid Fever.

The interval of time between receiving the poison of typhoid fever and becoming sick therefrom varies considerably, and may be from eleven to twenty-one days, or even longer. The patient may feel exhausted, and have pains through the body, and especially headaches, for some time before he is willing to admit himself sick. Often the incipient symptoms are confounded with those of "malaria."

#### Persons Liable to the Disease.

The greatest number of deaths from this disease is of persons in the prime of life, and this should prompt to greater efforts to prevent the disease. But persons of all ages have it, and even though it may be of only a mild form, yet the mild form may be the means of communicating the most maglignant type of the disease to others. Typhoid fever may not be, strictly speaking, contagious, but it is certainly communicable through infected foods and drinks.

#### Preventive Precautions.

This fever being communicated through contaminated water, the principal precaution is to protect the water supply. The most scrupulous care should be taken to keep the present sources of drinking water pure, and to procure future supplies only from clean sources. The general water supply of cities and villages is a matter of the greatest concern, and should be procured from places where there can be no probability of immediate or remote contamination. The well known outbreak of typhoid fever at Plymouth, in this State,

where over a thousand cases and many deaths occurred, is apparently an illustration of how great a calamity may follow the fouling of a general water supply by the discharges of one person sick with typhoid fever. When there is no general water supply, much may be done to protect the wells by the abolition of cess-pits and privy-vaults, by the use of dry earth in privies and by the frequent removal therefrom of all their contents.

Great care should be taken to prevent the contamination of the water supply by discharges from the bowels of a person sick with typhoid fever, as by drainage into wells, springs, or other water supply, from a privy-vault, sewer, drain or cemetery. Privies often drain into wells, unsuspected by those who use the water. Should typhoid discharges pass into such a privy an outbreak of typhoid fever among those using the water from a neighboring well would be likely to occur. If such a well were the source of the general water supply of a city, typhoid fever might soon be epidemic there. Extraordinary care should be taken to prevent typhoid fever discharges from entering any general water supply from a well or from a small stream. The use of water from a source likely to be infected with excreta from a typhoid fever patient should be promptly stopped; and great care should also be given to the milk supply.

There is good reason to suspect the water of a well whenever a vault is situated within two hundred feet of it, particularly if the soil be porous. In numerous instances fluids from excreta have leached into wells from much greater distances; and it has been proved that a well thirty rods from a cemetery received water which had filtered through the soil of the cemetery. Dangerously contaminated water may be, and often is found to be clear and colorless, and to have no bad taste.

Since this disease is so prevalent in country places it would be well to establish the following:

#### **Rules for all Farm and Village Homes.**

1. That the privy-pit be absolutely abolished, and that the earth-closet take its place. The earth-closet costs less at first, the excreta can all be returned to the earth, without the least offense, and at great profit to the farmer and gardener, and besides, the earth-closet is free from most, if not all, of the dangers resulting from the use of the privy-pit, principally the contamination of the water supply, and the production of offensive and poisonous vapors.

2. That in the fall of the year, when the waters are low, only boiled water be used as a beverage. Boiling destroys the germs of this disease. Whenever a case of typhoid fever appears, the polluted well water must be abandoned at once, and boiled water resorted to.

When visiting in a district where typhoid fever prevails, one should drink only tea or coffee which has been well boiled. People who rent



houses, should be careful to ask if typhoid fever (or any other contagious disease) has been in the house within a year, and to require a written statement of the owner or agent.

Anything which deteriorates general good health, tends to render the system liable to disease, and in this way filth may be considered a promoter of typhoid fever. Perfect cleanliness should be enjoined in the house and all its surroundings.

In a town, sewer gases *must not be permitted to enter a house* from defective pipes, and in the country foul gases in privies must not be tolerated. *Cases of typhoid fever should be at once reported to the local board of health, and, if a number occur in the same neighborhood, to the State Board of Health.*

#### Precautions in the Care of the Sick.

1. The sick chamber should be as large, airy, and as pleasant as possible, and in a part of the house where quiet can be obtained for the patient. The room should have means for free ventilation without the production of draughts; an open fire-place with a lamp burning in it is the best means of ventilation. Unnecessary articles of furniture should be removed from the room, but it is not needed to remove the carpet.

2. No special precautions need be taken to isolate the patient from the rest of family, but the house should be marked so that strangers may not drink the water on the premises.

3. Whenever the hands of the nurse become soiled with the excretions, they should be washed, first in a water containing chloride of lime, and then with pure water and soap. The hands of those about a typhoid fever patient should always be washed before eating.

4. All glasses, cups, or other vessels used by the patient, should be cleansed in boiling water before being used by others, and all food or drink, touched and not consumed by the patient, should be burned or buried. *Perfect cleanliness must be enjoined.*

5. The discharges from the bowels and from the kidneys should be received on their very issue from the body into vessels charged with disinfectants, and in cities where sewers exist, thrown at once into the water closet, but in country places these excreta, after disinfection, should be buried in the soil, at least one hundred feet from any well, and in no case should they be thrown into a running stream, nor into a privy vault. Rags, paper, &c., which have become infected with excreta should be burned in a strong fire. It will be well in all cases of typhoid fever to place a piece of India-rubber cloth, or a rubber blanket under the patient to protect the bed from the discharges.

6. All articles of the patient's clothing which are soiled, and all the sheets, towels, napkins, etc., used in the rooms, should be *boiled thoroughly*, and as soon as possible to destroy all germs which may be in them.



7. It is hardly necessary to add that in this disease, even in its mildest form, the patient should be under the care of a reliable physician.

#### The Convalescent Patient.

In this disease, the recovering person is not dangerous to his friends. He may have cheerful society. The fever usually has its seat in the bowels, and often causes ulcerations of their walls, and on this account, for some time, the patient must be very careful of what he eats, as solid substances sometimes cause perforations of the intestinal walls, and nearly instant death. The patient must be willing to get well slowly.

#### Burials.

After death the body should be wrapped in a sheet saturated with a solution of corrosive sublimate and buried as soon as possible. At the funeral, in country places, the contaminated water should be rendered inaccessible to the visitor *by the removal of the pump-handle or by means of a conspicuous notice.*

#### Disinfection after Recovery or Death.

This work should be done thoroughly, and generally it will be best done by an intelligent person *who has had* experience in the work. Recent investigations by a committee of the American Public Health Association show that some substances, on which much reliance has been placed, are of very little value as disinfectants. Only those which the committee recommend are here mentioned.

#### Standard Disinfecting Solutions Recommended by the State Board of Health.

1. STANDARD SOLUTION No. 1.—Dissolve chloride of lime or bleaching powder of the best quality (containing at least twenty five per cent. of available chlorine) in soft water in the proportion of four ounces to the gallon.

2. STANDARD SOLUTION No. 2.—Dissolve corrosive sublimate and permanganate of potash in soft water in the proportion of two drachms of each salt to the gallon.

(NOTE.—1. This solution is highly poisonous. 2. It requires a contact of one hour to be efficient. 3. It destroys lead pipe. 4. It is without odor.

3. STANDARD SOLUTION No. 3.—To one part of Labarraque's solution (*liquor sodæ chloratæ*—U. S. P.) of hypochlorate of soda add five parts of soft water.

(NOTE.—Competent authority has pronounced this superior to all other disinfectants.)

4. STANDARD SOLUTION No. 4.—Dissolve corrosive sublimate in water in the proportion of four ounces to the gallon, and add one drachm of permanganate of potash to give color to the solution as a

precaution against poisoning. One fluid ounce of this solution to the gallon of water is sufficiently strong. Articles should be left in it for two hours.

(NOTE.—Corrosive sublimate solutions should be kept in wooden or crockery vessels.)

#### To Disinfect Discharges from the Patient.

Use standard solutions, Nos. 1, 2 or 3, keeping a pint of the solution used constantly in the vessel ready for any emergency. Let the excreta be passed directly into the solution, and then let a pint more of it be added: the whole should stand for some time before being thrown into the sewer or being buried. These discharges, containing the specific poison of the fever, *should never be thrown into or near a stream or on the surface of the ground.*

#### To Disinfect Clothing, Towels, Napkins, Bedding and such Textile Fabrics as can be Washed.

Use standard solution No. 4, *one ounce to the gallon of water*, or use one gallon of solution No. 1, in nine gallons of water. Let the goods soak in the solution for at least two hours—better four hours—before they leave the room. Stir them up so that the solution gets all through them. After disinfection, boil the goods thoroughly.

#### For the Disinfection of Water-Closets, Urinals, Sinks and Cess-Pools.

5. CARBOLIC ACID SOLUTION.—Mix one pint of carbolic acid with two and a half gallons of water.

Standard solution No. 4, diluted with three parts of water, may also be used in the proportion of one gallon (of the solution) to every four (estimated) of the contents of the vault. Standard solution No. 1 would require to be used gallon for gallon of the material to be disinfected. Dry chloride of lime may be sprinkled over the contents of a privy, or standard solution No. 2 may be made up by the barrel, and four or five gallons be applied daily during an epidemic.

#### To Disinfect the Sick-Room After Typhoid Fever.

The room in which there has been a case of typhoid fever, whether fatal or not, should, with all its contents, be thoroughly disinfected by exposure for twenty-four hours to strong fumes of burning sulphur, and then for several hours—if possible, for days—be exposed to currents of fresh air.

*Rooms to be disinfected* by sulphurous fumes must be vacated. For a room ten feet square at least three pounds of sulphur should be used; for larger rooms proportionately increased quantities, at the rate of three pounds for each one thousand cubic feet of air space.

Hang up and spread out as much as possible all blankets and other articles to be disinfected; turn pockets in clothing inside out, and otherwise facilitate the access of the sulphurous fumes to all infected places.

Close the room as tight as possible, place the sulphur in iron pots or pans which will not leak, supported on bricks over a sheet of zinc or in a tub containing water, so that in case melted sulphur should leak out of the pot the floor may not be burned; set the sulphur on fire by hot coals or mixed with a spoonful of alcohol or petroleum and then lighted by a match; be careful not to breathe the fumes of the burning sulphur, and when certain the sulphur is burning well, leave the room, close the door, and allow the room to be closed for twenty-four hours.

BENJAMIN LEE, M. D.,  
*Secretary.*

EXECUTIVE OFFICE, PHILADELPHIA.

---

## II. PRECAUTIONS AGAINST DIPHTHERIA.

---

Diphtheria is a contagious and infectious disease of great severity and fatality, and yet in many places there is gross ignorance and indifference concerning its ravages. It is to be ranked with scarlet fever, as a malignant contagious disease, not only because of its large mortality, but also, because, like scarlet fever, it is frequently followed by physical defects, such as blindness, deafness and paralysis. It is, therefore, highly desirable that all persons should understand the nature of this disease and the means of preventing its spread.

Whenever a child or a young person has a sore throat, with a bad odor to its breath, especially if it has fever, it should immediately be separated from all other persons, excepting necessary attendants, until it is ascertained by a physician whether it has diphtheria or some other communicable disease. Mild cases may communicate malignant and fatal forms of the disease.

### How the Disease is Spread or Communicated.

Diphtheria is believed to be caused by a special poison (contagium) which may be conveyed to persons previously unaffected, by personal contact, by infected clothing, rags, hair, or paper, or by any of the discharges of the body of a person sick of the disease. The seeds or germs of this terrible disease may be received from anything which has touched the sick person, as air, food, clothing, sheets, blankets, furniture, toys, books, wall paper, curtains, cats, dogs and flies. *The discharges from the throat, nose and mouth* are believed most frequently to contain the germs of the disease and to communicate it to others, but the discharges from the *kidneys* and from the *bowels* are also dangerous. The diphtheria poison has great vitality, and may lie dormant in clothing, blankets, paper and houses for weeks, and even months. It seems to be able to travel in the air of sewers, and



thus to pass from house to house; also to rise in the emanations from putrid privies and cesspools. It can, also, undoubtedly, infect foods, milk and water, and with them enter the bodies of children.

#### Time Required to Develop Diphtheria.

The time which may intervene between exposure to the poison of diphtheria and the appearance of the symptoms of the disease, varies. It may be from two to six days; the average is variously stated at from six to ten days, but the time may be extended to five or six weeks.

#### Persons Liable to the Disease.

Diphtheria is usually considered a disease of childhood. The greatest number of deaths from the disease occur in children under twelve years of age. Adults may, however, contract the disease and may die of it, although they usually have it in a milder form than do children; and yet an adult, with a mild form of diphtheria, may communicate a malignant form to a child. Children under two years and a half old are not very liable to the disease, especially if they are nursing from the mother. One attack usually prevents any subsequent one, but this is not always so. The idea that all children must have this terrible disease as well as the other diseases of childhood, should no longer be tolerated. If parents everywhere could only be brought to act intelligently, these diseases might become almost unknown. They are certainly not a necessity.

#### General Precautions.

The disease being caused by a special poison, *this must be avoided by children under twelve years of age*, and by those who live in families where there are children.

Plain and distinct notices, but not necessarily unpleasantly conspicuous, should be placed on every house or premises where there is a case of diphtheria; and no child which has not had the disease should be allowed to enter, or to associate with persons who do enter, such houses or premises, *or to play with the cats and dogs from such houses.*

Adults, whose services are not needed, should keep away from the disease. When necessity requires one to visit such house, the clothing should afterwards be changed and a bath taken before going where there is a child.

Beware of any person who has a sore throat. Do not kiss or take the breath of such a person. Do not drink from the same cup, or use any article handled by such a person until it is disinfected.

Whenever a child complains of a sore throat, or is in the least hoarse, it should receive careful attention from its parents or friends until it recovers.

Whenever the disease is prevalent in any district, children should *be removed from the day and Sabbath schools.* They should also, at



these times, not travel in the public cars or public carriages, the upholstered seats of which may harbor the poison.

Parents in whose families the disease has broken out, who are able to do so, may send their children unaffected with the disease, to homes in which there is no one liable to contract it. But, whenever such removals are made, the children should not mingle with the public until after the lapse of two weeks. From families in which this disease is prevalent, children must not attend school, church, or any public assembly, and adults should likewise abstain from attending church and public assemblies as much as possible.

Close attention should be paid to the sources of the water and the food supplies. If possible, only the purest water should be used. If there is any doubt about the purity of the water, boil it thoroughly before using it. Foods and milk should not be used which come from a house in which there is diphtheria (or any other contagious disease), for these articles may carry the germs of the disease.

People who do not own their own houses, but who move from house to house, should always inquire whether diphtheria (or any other contagious disease) has recently been in the house they propose to rent, and it is well to demand from the owner or agent a written statement that those diseases have not been present for at least a year. If they have been present, do not rent the house under any consideration.

Anything which deteriorates general good health, tends to render the system liable to disease—and, in this way, filth may be considered a promoter of diphtheria. Perfect cleanliness should be enjoined in the house and all its surroundings. Sewer gas must not be permitted to enter the house. All foul odors must be destroyed in privies and cess-pools by the appropriate disinfectants. (See disinfectants, in this circular). Let the house receive all the pure air and sunlight possible.

Newspapers, in reporting deaths, should mention ("from Diphtheria,") that people may be warned not to attend the funeral.

Cases of diphtheria should be reported to the local board of health or to the borough council at once. Do not send your clothing to a public laundry to be washed during an epidemic of diphtheria.

#### Precautions in the Sick Room.

1. Whenever diphtheria is known to exist, or is even suspected, the first thing to secure is the complete isolation (separation) of the patient from his family (except the nurse) and from the public, and to continue this isolation until a physician declares that all danger is over.
2. The sick room should be in the upper part of the house, if possible. It should be as large and pleasant as can be, with means for free ventilation without causing cold draughts, which are especially to be avoided in this disease. An open fireplace, with a lamp burning in it, is an excellent means of ventilation. Before using it, the

room should be cleared of all needless woolen or other draperies which might harbor the poison. The carpet had better be taken up, and only a few strips laid down on the floor to deaden the footsteps. All articles of furniture not needed should be removed from the room, taking care not to render it barren in appearance. A sheet, wet with a solution of the sulphate of zinc, should hang before the door connecting the sick room with the rest of the house, or in the passage-way leading to the room. No person but the nurse and the physician should enter the sick room until the patient has recovered and the room has been disinfected.

3. The nurse should not mingle at all with the other children in the family unaffected with the disease, and as little as possible with the adults. Her outer dress should be of some material which can be washed rather than of wool, which harbors the disease.

4. Pocket handkerchiefs should not be used, but small pieces of rag employed instead, for wiping the nose and the mouth. Each piece, after being once used, should be immediately burned. The playthings used in the sickness should also be burned. A vessel, containing a disinfecting solution, should always be on the bed for the patient to spit into.

5. As the hands of nurses become, of necessity, frequently soiled by the excretions, a good supply of towels and two basins—one containing water with Condyl's fluid, or solution of chloride of lime, and the other plain water with soap—should always be on hand for the immediate removal of the taint.

6. All glasses, cups or other vessels, used by or about the patient, should be cleaned with scrupulous care, in boiling water, before being used by others, and all foods or drinks touched by the patient and not consumed, should be burned or buried.

7. The discharges from the bowels and the kidneys should be received on their very issue from the body into vessels charged with disinfectants, and, in cities where sewers exist, thrown at once into the water closet; but in country places, these excreta, after disinfection, should be buried in the soil at least one hundred feet from any well, and in no case should they be thrown into a running stream or into a privy vault. Rags which are infected with discharges from the bowels, nose, throat, eyes or bladder, should be burned or buried.

8. The patient's clothing and the sheets and other bed clothing, whenever these are changed, should be thrown at once into a tub containing several gallons of water, to which has been added the standard disinfecting solution No. 4 of this circular. Let the clothing stand in the solution four hours and then give it a thorough boiling. Never carry any clothing, which is dry, from the patient through the rest of the house.

9. Perfect cleanliness must be enjoined in the room, the nurse and *the person of the patient.*

10. It is hardly necessary to add that, in this dangerous disease, the patient should always be under the care of a skilled physician.

#### **Precautions During Convalescence.**

1. The patient should remain in the sick chamber, in complete isolation from the public, until his physician declares that there is no longer danger of his communicating the disease, and this will be until all sores in the throat and about the mouth or nose are healed.

2. He should, before leaving his room, under the direction of the physician, take several warm baths. He should not appear in public until all the clothing he wore for two weeks previous to his sickness, and that worn during his sickness, has been thoroughly disinfected.

3. He should be very careful of himself for some weeks, dressing warmly in woolen undergarments, avoiding chills and cold draughts, and using the eyes as little as possible for reading and study.

#### **Precautions in Regard to Burials.**

After death the body should be wrapped in a sheet saturated with a solution of corrosive sublimate, or placed in an air-tight coffin, and buried as soon as possible. The body should not be exposed to view after being placed in the coffin. The funeral should be as private as possible, and certainly no children should be present. Undertakers should not furnish chairs or any other articles which may become infected. Such articles as they do furnish should be washed with a solution of corrosive sublimate before being used elsewhere.

#### **Precautions After Recovery or Death—Disinfection.**

This work should be done thoroughly, and generally, it will be best to employ an intelligent person who has had experience in the work. Recent investigations by a committee of the American Public Health Association show that some substances, on which much reliance has been placed, are of very little value as disinfectants. Only those which the committee recommend are here mentioned.

#### **Some Articles Should be Burned**

The child's playthings used during sickness, paper books, articles of fur and wool, such as strips of carpet and pieces of badly-infected woolen clothing. In a city this is best done by making them up in a compact bundle in the sick room, thoroughly dampening the outside of the bundle with a solution of chloride of lime or corrosive sublimate in water, and then carrying to the glowing furnace under a large boiler in some industrial establishment. If in the country, these things should be carried into a field or a woods far from any human habitation, and there made to burn thoroughly and quickly, to do which, the bundle should be opened and saturated with petroleum. Under no circumstances should these things be thrown into an open space or into running water.



(Standard disinfecting solutions recommended by the State Board of Health, as in Circular No. 8.)

**To Disinfect the Sick Room After it is Vacated.**

If it is possible, let the room be thrown wide open for several days for a thorough airing. If papered, let the paper be all removed with care. Then let all the walls, the floors and the woodwork of the room, as well as the furniture, be washed with standard solution No. 4, one pint to four gallons of water, or of solution No. 1, a quarter of a pint to a gallon of water. Let this work be done most carefully, getting the solutions into all the crevices. If any dust be present in the corners and crevices, wipe it out with a rag wet in the disinfecting fluid. Don't stir it up with a brush or broom. Last of all, whitewash the walls and the ceiling.

**Sulphur Fumigation**

Is believed in by many as very efficacious, but should not be allowed to take the place of the scraping and scrubbing. It is performed in the following manner: Open wide all the drawers and closet doors. Hang on lines, opened up as much as possible, all the woolen articles which have been in the room during the sickness and which have not been disinfected and washed, then burn two pounds of sulphur for every thousand cubic feet in the room. Every opening in the room—flues, doors, windows, cracks and crevices—must be closed, except the door by which the disinfector is to escape. The sulphur is to be burned in an iron kettle or other vessel set in a tub, containing a little water to guard against fire. A little alcohol or kerosene must be poured upon the sulphur by means of which it may be ignited. Leave the room quickly, for the fumes are highly poisonous when breathed, and close the door tightly. Let the room remain closed twenty-four hours or more. Then air thoroughly for several days.

BENJAMIN LEE, M. D.,  
*Secretary.*

EXECUTIVE OFFICE, PHILADELPHIA.

---

**III. PRECAUTIONS AGAINST CONTAGIOUS AND INFECTIOUS DISEASES.**

---

Scarlet Fever, Diphtheria, Small-Pox, Varioloid, Typhoid Fever, Typhus Fever, Yellow Fever, Measles, Cholera, Dysentery, Erysipelas, Mumps and Whooping-Cough.

Some of these diseases are communicated directly from person to person; such are scarlet fever, small-pox and measles. Others *contaminate fluids and solids* which are eaten by human beings and thus



enter the system ; such are typhoid fever, cholera and dysentery, while others still pass from person to person through the air (so far as our present knowledge extends), such as typhus fever, small-pox, whooping-cough and influenza.

It is fully believed by sanitarians that most infectious and contagious diseases could be "stamped out" completely, could mankind be induced to live up to the light which we now possess concerning their nature. The "plague," "the black death," "the sweating sickness," and "cholera," in former years ravaged continents, carrying to the grave from one-fourth to three-fourths of all the inhabitants. Their ravages have been stayed; some of them are unknown in civilized countries. May the diseases here named be unknown to future generations. To aid in their restriction, the State Board of Health publishes this circular.

#### How Contagious Diseases are Spread.

It is believed that each of these diseases is the result of a special poison (contagium) working in the body. These enter the system in different ways, and exert their main force on different parts of the body.

Scarlet fever, small-pox and measles and all eruptive diseases of the skin are probably propagated by a poison discharged in the dead skin, as well, also, as by means of all discharges from the bowels, bladder, nose, mouth, eyes and ears. The discharges from the skin (dry dust, scales, scabs, etc.) as well as from the nose and mouth, are believed to be especially malignant.

In diphtheria, the discharges from the mouth, nose and throat, as well as from the bowels and bladder, are believed to contain the poison, especially those from nose, mouth and throat. The same is true of whooping cough. In the case of consumption the matter coughed from the lungs may possibly be a means of propagating that disease. Typhoid fever, cholera and dysentery have their special poisons in the discharges from the patients' bowels which are disseminated in drinking water. The same is probably true of yellow fever. Puerperal fever may be conveyed from patient to patient on the persons of physicians and nurses. Parasitic diseases are obtained from foods and drinks, and by actual contact of a healthy person with one diseased. The same is true of syphilis. Typhus fever seems to be a disease caused by over-crowding and by foul gases from sewers and drains.

#### Time Required to Develop these Diseases.

The time intervening between exposure to the special poison and the appearance of the first symptoms of these diseases varies greatly. It may be from only a few hours, as in the case of cholera and yellow fever, to three or four weeks or even longer as in typhoid fever.

## Persons Liable to these Diseases.

As a general rule, one attack gives immunity from any second attack. Scarlet fever, diphtheria, measles and whooping-cough prevail most among children, but may attack persons of all ages. The other diseases named do attack persons of all ages. As a rule, the cleanly, temperate, well-fed, and well housed suffer less from these diseases than do the ill-fed, intemperate, ill-clothed, over-worked, and ill-housed, but this is not always so. The intemperate certainly suffer more than others. Those who have been *successfully* vaccinated within seven years, do positively escape small-pox. Persons who are in a "run down" and exhausted state of body, are more liable than others to have the germs of disease take root in their bodies than are others. Typhoid fever especially attacks those in vigorous life. Diphtheria generally passes by nursing babies.

## General Precautions.

## HOW TO AVOID THESE DISEASES.

See to it that your family and yourself are successfully vaccinated. Unless your services are needed, stay away from all houses in which these diseases are present. Don't attend funerals from any of these diseases. Keep children away from all houses in which these diseases prevail. If any of these diseases, to which children are subject, are epidemic in a town, keep your children from day and Sabbath schools, from churches, and all assemblies. Be sure that the water you drink is pure; well water is always to be suspected. In traveling, it is safest to drink only boiled water, such as one gets in tea and coffee. When buying or renting a house, always ask if it has been free for the past two years, from all these contagious diseases, and demand a written guarantee. Educate the people of your neighborhood as to the nature of these diseases, and what they should do when they occur. Aid in establishing a local board of health, and see that your community has laws in reference to cleanliness, private funerals, the isolation of those sick of contagious diseases, and the closing of schools and churches against those living in houses in which any contagious disease prevails. The country privy and the city cess-pool should be abolished everywhere *absolutely*. The most scrupulous cleanliness must be enforced everywhere. When contagious diseases prevail, do not send your clothing to the public laundries. There should be a notice on every house in which there is a contagious disease, so that the public may be warned to remain away.

If one is required to be about a person sick with a contagious disease, he should eat his meals regularly, take exercise in the open air each day, get his usual amount of sleep, and dismiss all over anxiety as to the danger of contagion. But he must avoid the special poison. Do not take the breath of the sick one. Do not touch with the lips

any food, drink, cup, spoon, or anything else that the sick person has touched, or that has been in the sick room. Do not wipe your face or hands with any cloth that has been on or near the sick person. Do not wear any clothing the sick person has worn during, just before, or just after his sickness. Keep your hands free from any discharges from the body or skin of the sick person, and if they do become soiled, wash them soon as possible in water containing a solution of chloride of lime. Do not touch the sick with sore or scratched hands. Particularly avoid receiving into the body through the mouth or nose, any of the scales or scabs from the skin of those sick or recovering from scarlet fever or small pox. Consumptives should spit on rags and these should be burned. Their sputa should never be eaten by chickens or other domestic animals, as there is reason to believe that they will infect them, and they in turn, through their meat, other human beings.

Whenever a place is threatened with an epidemic of any contagious disease, the local board of health, or the town council, should appoint a few discreet persons who should go from house to house and instruct the people in what they should do to avoid the threatened danger. This should be done without creating any alarm. The town should be thoroughly and scientifically cleaned and disinfected, and the condition of the drinking water examined by an expert.

#### PRECAUTIONS IN THE SICK ROOM.

1. The sick chamber should be as large, airy and pleasant as possible. It should be in a part of the house where as much quiet as possible may be secured. In contagious diseases it is best to have the sick room in the upper part of the house, so that the air from it will not mingle so much with the air of the house. The room should have means for free ventilation without the production of draught. All unnecessary articles should be removed from the room.

2. The patient should be isolated in the sick room from the visits of all except his nurses and the physician. (This does not apply to typhoid fever, cholera or dysentery).

3. All glasses, cups, or other vessels used by the patient, should be cleansed in boiling water before being used by others. And all foods and drinks, touched and not consumed by the sick, should be burned or buried.

4. The discharges from the bowels and from the kidneys should be received on their very issue from the body into vessels charged with disinfectants, and, after thorough disinfection, thrown into the sewer, or, in the country, buried, at least one hundred feet from any well or running stream. In no case should they be thrown on the surface of the ground or into a running stream of water. Rags and paper which have become contaminated with any discharge, should be burned at once in a strong fire. It is well, in all contagious diseases, to place a



piece of rubber cloth under the patient to prevent the discharges from soaking into the bed.

5. All articles of the patient's clothing, all sheets, towels, napkins, bandages or sponges about the sick, must, before being taken from the sick room, be thrown into a tub containing several gallons of solution of chloride of lime (standard solution No. 1) and remain in it three hours. Never carry any dry clothes from the sick room without disinfection. After disinfection they should be thoroughly boiled.

6. Perfect cleanliness must be enjoined in the room, the nurse, and the person of the patient. There must never be a bad smell in the room.

7. It is hardly necessary to say that in *all* contagious diseases the patient should be under the care of a skilled physician.

#### PRECAUTIONS DURING CONVALESCENCE.

The patient should not mingle with the public until the physician certifies that there is no danger of contagion; he will not be well so long as the skin is unhealthy or peeling off, or as there are any sores in the mouth, throat, or nose, or any symptoms of dropsy. He should then, under the direction of his physician, take several warm baths and put on a new suit of clothes before going in public. He will need to be careful of exposing himself for some weeks, until his strength is fully recovered.

#### PRECAUTIONS IN REGARD TO BURIALS.

After death the body should at once be wrapped in a sheet saturated with a solution of corrosive sublimate (standard solution No. 2) and buried as soon as possible. The funerals should be private. Newspapers should, in notices of death, mention disease, that people may remain away. Undertakers should not furnish chairs at funerals of those who have died from contagious diseases, and such articles as they regularly use in their business, if taken to such a house, should be washed with a solution of corrosive sublimate before being used elsewhere.

#### DISINFECTION AFTER RECOVERY OR DEATH.

This work should be done thoroughly, and generally it will be best done by an intelligent person who has had experience in it. Recent investigations by a committee of the American Public Health Association show that some substances on which much reliance has been placed are of little value as disinfectants. Only those which the committee recommend are here mentioned.

Burn as many of the articles which have been about the sick as possible.

(Standard disinfected solutions, recommended by the State Board of Health as in circular No. 18).



### TO DISINFECT THE SICK CHAMBER.

The room must be vacated. The paper should all be carefully scraped from the walls. Thorough ventilation for several days, and thorough washing of all surfaces with one of the disinfecting solutions, say, one pint of standard solution No. 4 to four gallons of water, or a quarter of a pint of solution of hypochlorite of soda to a gallon of water. The walls and ceiling, if plastered, should be washed with this, and then whitewashed. All dust must be carefully washed (not brushed or swept) away from ledges, cracks, corners and crevices.

### SULPHUR FUMIGATION.

To use this effectively, two pounds of sulphur should be burned in a room ten feet square. Every opening in the room—flues, doors, windows, cracks, and crevices—must be closed, except the door by which the disinfector is to escape; closet doors and bureau drawers should be opened wide, and all woolen articles which have been in the room during the sickness, hung on lines, being spread out and opened up as much as possible. The sulphur is to be burned in an iron kettle or other vessel set in a tub containing a little water to guard against fire. A little alcohol or kerosene must be poured upon the sulphur, by means of which it may be ignited. Leave the room quickly, for the fumes are highly poisonous when breathed, and close the door tightly. Let the room remain closed twenty-four hours or more. Then air thoroughly for several days.

BENJAMIN LEE, M. D.,  
*Secretary.*

EXECUTIVE OFFICE, PHILADELPHIA.

---

## IV. PRECAUTIONS AGAINST SCARLET FEVER.

---

Scarlet fever (called also scarlatina, scarlet-rash, canker-rash and rash-fever) is a highly contagious and infectious disease, to be dreaded more than small-pox, for it cannot be prevented by vaccination, and its victims in our country are far more numerous than those from small-pox. Those recovering from scarlet fever are often left with great physical defects, such as blindness, deafness, paralysis and impaired minds. Scarlet fever and diphtheria are justly dreaded as the most terrible diseases of childhood. It is, therefore, highly desirable that everyone should understand the nature of this disease, and the means to prevent its spread. It is always attended with a bright scarlet eruption on the skin, and is usually accompanied by a sore throat. Whenever children have sore throats, or an eruption of the skin, even mildly, they should be separated from the rest of the

family until a physician has seen them, or these symptoms have disappeared. It must never be forgotten that the mildest type of scarlet fever may communicate the most fatal form of the disease.

#### How the Disease is Spread.

Scarlet fever is believed to be caused by a special poison (contagium) which may be conveyed, to persons previously unaffected, by personal contact, by infected clothing, rags, hair, or paper, or by any of the discharges from the body of a person sick with this fever. The seeds or germs of this terrible disease may be received from anything which has touched the sick person—as air, food, clothing, sheets, blankets, furniture, toys, books, wall paper, curtains, cats, dogs, or even flies. The discharges from the bowels, the kidneys, the nose and the mouth are considered to be extremely dangerous, as also all discharges from the eyes, ears and skin. A person who has had scarlet fever is to be considered dangerous so long as the skin remains in an unhealthy condition, or continues to peel off in scales or flakes. This is not less than six weeks, and may sometimes be seventy or eighty days. The poison may remain active for a great length of time, certainly for months, and possibly for years, as in the case of infected woolen clothing which has been packed away in drawers or trunks. Woolen clothing also probably carries it more readily than cotton goods.

#### Time Required to Develop Scarlet Fever.

The time which may intervene between exposure to the poison of scarlet fever and the appearance of the symptoms of the disease varies. It may be from one to fourteen days; the average is variously given from six, eight or ten days, but the time may be extended to four weeks.

#### Persons Liable to the Disease.

Scarlet fever is usually considered a disease of childhood. The greatest number of deaths from the disease are of children under ten years of age. Adults may, however, have it, and even if it is of a mild form, they may communicate the disease in its most malignant form to children. One attack usually prevents a second attack, though not always. It is by no means necessary that every child should have scarlet fever. If they could be kept from its poison, none would have it, and thousands of lives could be saved.

#### General Precautions

The disease being caused by a special poison, exposure to this poison must be avoided, especially by children under ten years of age. Plain and distinct notices should be placed on every house or premises where there is a case of scarlet fever, and no child which has not had the disease should be allowed to enter, or associate with persons who *do enter* such house or room, nor with the cats or dogs from such

houses. Adults, whose services are not needed, should also keep away from them. When necessity requires one to visit such a house, the clothing should be changed and a bath taken before going where there is a child.

Beware of any person who has a sore throat. Do not kiss, nor take the breath of such a person. Do not drink from the same cup, nor use any article handled by such a person until it is disinfected.

Whenever a child complains of a sore throat it should receive careful attention from its parents or friends until recovery occurs.

When the disease is prevalent in any district, children should be removed from the day and Sabbath schools. They should, also, at these times, not travel in the public cars or carriages, the upholstered seats of which may harbor the poison.

Parents in whose family the disease has appeared, who are able to do so, may send children unaffected with the disease to homes in which are no persons liable to contract the disease, but they should always be isolated, for about two weeks after their removal, from the public.

From families in which the disease is prevalent, children must not attend school, church, or any assemblies, and the adults of the family should likewise abstain from attending church and all assemblies as much as possible.

Close attention should be paid to the source of the water and to the food supply. If possible, only the purest water should be used. If there is danger of contamination, boil it before using. Foods and milk should not be used which come from a house where there is scarlet fever, as they may convey the disease, especially the milk.

People who do not own their own houses, but who move from house to house, should always enquire whether scarlet fever, as well as any other contagious disease, has been in the house they propose to rent within a year, and it would be well to demand from the owner or agent a written paper certifying that these diseases have not been present.

Anything which deteriorates general good health tends to render the system liable to disease, and, in this way, filth may be considered as a promoter of scarlet fever. Perfect cleanliness should be enjoined in the house and all its surroundings. Sewer gas must not be permitted to enter the house. All foul odors must be destroyed in privies and cesspools by the appropriate agents. (See disinfectants) Let the house receive all the pure air and sunlight possible.

Newspapers, in reporting deaths, should mention scarlet fever, that the people may be warned to remain away.

Cases of scarlet fever should be reported to the local board of health at once.

Do not send clothes to a public laundry to be washed during an epidemic of this disease.



## Precautions in the Sick Room.

1. Whenever scarlet fever is known to exist, or is even suspected, the first thing to secure is the complete isolation of the patient from his family (except the nurse) and from the public. Continue this isolation until the physician says the danger is over.

2. The sick room should be in the upper part of the house, preferably. It should be as large and pleasant as possible, with means for free ventilation without the creation of cold draughts, which are especially to be avoided in this disease. An open fireplace, with a lamp burning in it, is excellent. Before using, the room should be cleared of all needless woolen or other draperies which might harbor the poison. The carpet should be taken up, and only a few strips laid on the floor to deaden footsteps. All articles possible should be removed from the room. A sheet wet with the sulphate of zinc should hang before the door connecting the sick room with the rest of the house, or in the passage way. No person but the nurse and the physician should enter the sick room until the patient has recovered and the room been disinfected.

3. The nurse should mingle not at all with the children in the family unaffected with the disease, and as little as possible with the adults. Her outer dress should be of some material that can be washed, rather than of wool, which harbors the disease.

4. Pocket handkerchiefs should not be used, but small pieces of rags employed instead, for wiping the mouth and nose. Each piece, after being once used, should be immediately burned. A vessel containing a solution of chloride of lime (standard solution No. 1) should be on or near the bed at all times for the patient to spit into.

5. As the hands of nurses, of necessity, become frequently soiled by the discharges of the patient, a good supply of towels and soap and two basins—one containing a solution of chloride of lime (standard solution No. 1) and the other plain clean water, should always be on hand for the immediate removal of the taint.

6. All glasses, cups or other vessels, used by or about the patient, should be scrupulously cleansed in boiling water before being used by others; and all food or drink touched by the patient should be destroyed or buried.

7. The discharges from the bowels and kidneys should be received, on their very issue from the body, into vessels charged with disinfectants, and, in cities where sewers exist, after disinfection, thrown at once into the water closet; but, in country places, these discharges should be buried in the soil, at least 100 feet from a well, and in no case should they be thrown into a running stream, nor into a privy vault. Rags which are infected with discharges from the bowels, nose, throat, eyes or ears, or from the bladder, should be burned or buried.

8. The clothing removed from the patient, all sheets, towels, hand-



kerchiefs and napkins, should be thrown *at once*, on removal from the patient, into a tub containing several gallons of standard solution No. 1, in which they should remain two hours before being carried out of the room. Under no circumstances, carry clothing from the bed or person of the sick through the house, before it has been wet in the disinfecting fluid.

9. Under the direction of the attending physician, it is well to anoint the body of the patient twice a day with oil, lard or vaseline, containing about ten grains of carbolic acid to the ounce. This should be done so long as the skin continues to peel off. Perfect cleanliness should be enjoined in the room, the nurse and the person of the patient.

10. It is hardly necessary to add that, in this dangerous disease, the patient should always be under the care of a skilled physician.

#### Precautions During Convalescence.

1. The patient should remain in the sick chamber, in complete isolation from the public, until the physician declares there is no danger of his conveying the disease.

2. He should, before leaving his room, take warm baths for several days, care being taken to remove every particle of loose skin from the body and head. These baths should only be taken when permitted by the attending physician, and in a warmed room. The patient should never appear, on recovery, in public in any clothing worn while he was sick, nor for the two weeks before he was taken sick, until such clothing has been thoroughly disinfected. So long as there is any peeling of the skin or any soreness of throat or eyes, or any symptoms of dropsy, recovery is not complete.

3. He should be very careful of himself for some weeks, dressing warmly in woolen garments, avoiding chills and colds, and using the eyes very little for reading or study.

#### Precautions After Recovery or Death.

##### BURIALS.

After death the body should be wrapped in a sheet saturated with corrosive sublimate solution, placed in an air-tight coffin, and buried as soon as possible. The body should not be exposed to view after being placed in the coffin. Undertakers should not furnish chairs for these funerals, and all things necessarily used should be washed with a solution of corrosive sublimate before being taken to another house. The funeral should be private, and no children should be present.

##### DISINFECTION.

This work should be done thoroughly, and when possible, it will be best to employ an intelligent person who has had experience in this work. Recent investigations by a committee of the American Public

Health Association show that some substances, on which much reliance had been placed, are of very little value as disinfectants. Only those which the committee recommend are here mentioned.

• SOME ARTICLES SHOULD BE BURNED.

Such are playthings, used during the sickness, paper books, articles of fur and woolen articles, such as carpets and some articles of clothing badly infected. In a city, this is best done by making them up in a compact bundle in the sick room, thoroughly sprinkling the outside of the bundle with a solution of chloride of lime or of corrosive sublimate, and then carrying it to the glowing furnace under a large boiler in some industrial establishment. If in the country, these things should be carried into a field or a woods, far from any human habitation, and made to burn quickly and completely. Under no circumstances should these things be thrown out into an open space.

(Disinfecting solutions recommended by the State Board of Health as in circular No. 18).

TO DISINFECT THE SICK ROOM AFTER IT IS VACATED.

If possible, let the room be thrown wide open for several days, for a thorough airing. If papered, let the paper all be removed with care. Then let all the walls, the floors and all the woodwork of the room, as well as the furniture, be washed with standard solution No. 4, one pint to four gallons of water, or of solution No. 1, a quarter of a pint to a gallon of water. Let this work be done most thoroughly, getting the solutions into all the crevices. If any dust be present in corners and crevices, let it be wiped up, not dusted away. Last of all white-wash the walls and ceilings.

SULPHUR FUMIGATION.

Open all the closet doors and all the bureau drawers, hang up on lines all the clothing in the room, spread out as much as possible; then, to use this effectively, two pounds of sulphur should be burned in a room ten feet square. Every opening into the room, flues, doors, windows, cracks and crevices, must be closed, except the door by which the disinfector is to escape. The sulphur is to be burned in an iron kettle or other vessel set in a tub containing a little water, to guard against fire. A little alcohol or kerosene must be poured upon the sulphur, by means of which it may be ignited. Leave the room quickly, for the fumes are highly poisonous when breathed, and close the door tightly. Let the room remain closed twenty-four hours or more. Then air thoroughly for several days.

• BENJAMIN LEE, M. D.,

*Secretary.*

EXECUTIVE OFFICE, PHILADELPHIA.

### V. PRECAUTIONS AGAINST TRICHINOSIS.

---

This disease (called also *Trichiniasis* and the *Trichina disease*), is caused by the presence of a microscopic worm (*trichina spiralis*) in the flesh of the body. This parasite was first discovered in 1835, by Mr. J. Hilton, in a body he was dissecting in Guy's Hospital, London, and was named by Prof. R. Owen, the great English naturalist. The effects of its presence in the human body were not known until 1860, since which time it has often been recognized as the cause of severe and fatal illness.

#### How the Disease is Acquired.

The source from which this parasite is introduced into the human body, is the flesh of the hog. When pork which has not been thoroughly cooked in every part, is eaten, some of the trichinæ may be introduced alive from the pork into the stomach of the person. Once in the stomach and intestinal tract, the worms, which were dormant in the pork, take on an active life. They increase in size, become sexually mature, and multiply in countless numbers. They next eat, or bore their way, from the stomach and intestines, into every part of the body, finally locating permanently in the muscles of the arms, legs and trunk, where they form a sack or covering for themselves, and become quiescent during the rest of the person's life. So small are these parasites, that one anatomist estimated 700,000, and another anatomist 5,000,000 worms in a single pound of human flesh. It is no wonder, then, that they create a disturbance when once in the body. The hog obtains the trichina from rats, which it often kills and eats. Most mammals have in their flesh worms like the trichina, but the hog trichina is the only one which, in civilized countries, infests man. Hogs should not be fed on distillery swill or glucose corn, as both may contain dead rats; nor should they ever be kept in slaughter-house yards.

#### Symptoms.

While trichinæ are breeding in the stomach and migrating through the body, they often produce very serious disturbances of the system. These symptoms come on within a very few days (from one to four) after the infested meat has been eaten. The symptoms are not uniform, but generally resemble those of the early stages of typhoid fever, or of rheumatism. There is at first thirst, loss of appetite, pain in the abdomen, sickness at the stomach and diarrhœa (but sometimes constipation). There is generally great physical and mental prostration. Usually there soon occur pains in the muscles, much resembling those caused by muscular rheumatism. There are pain, tenderness, stiffness and swelling, as in rheumatism. Sometimes there are dropsical swellings, especially in the face and about the eyelids. But the most marked symptom is the rheumatoid pain.

#### Preventive Precautions.

Raw and partially cooked pork must be entirely abandoned as an article of diet. Cook all forms of pork thoroughly before it is eaten. This includes sausages, "puddings," "scrapple," boiled ham, etc. Salting, pickling or smoking pork does not kill the trichina. Sausages may be first boiled and then fried. The central portions of large hams are often not thoroughly cooked when boiled. The parasite is not in lard.

The trichinae may some times be seen with the naked eye, as minute white spots in pork, on careful examination. Such meat should at once be rejected.

#### Treatment.

When it is known that raw pork has been eaten, medicines should at once be given to cause vomiting and purging. A skilled physician should be called immediately, and the case confided to his care.

To give an idea of the frequency of this disease, it may be mentioned that since 1875 the present president of this Board, in his capacity of health officer of Erie, has detected no less than six instances in and near that city, causing several deaths, and not less than fifty cases of serious and painful illness. There is no good reason for supposing that it is more frequent in that part of the State than in any other, but its presence constantly escapes recognition. In order that this may not continue to be the case, every health officer and every board of health should be provided with a microscope of low power for the examination of pork. If an ordinary microscope is not available, one made for the purpose by the "Bausch and Lomb Optical Company," of Rochester, New York, and called the Trichinoscope, will be found the cheapest and most convenient. Mr. E. A. Rau, of Bethlehem, who made the microscopic examination in the case from which the illustrations in this circular were taken, thus describes its use :

"In using the Trichinoscope I find it best to soak the slices of pork in strong acetic acid for five or ten minutes, then rinse in water and place in the Trichinoscope with water flooded over the sections, then compress them and adjust the focus of the doublet. Although the directions are to hold the Trichinoscope up to the light, other positions will answer, as I have found by trial."

The slices for examination should be very small, and as thin as a sheet of paper. They may be cut with a very sharp knife, a pair of curved scissors, or a Valentin's double-bladed knife to be found at any opticians.

If it is impossible to obtain a specimen of the suspected pork in order to establish the diagnosis, a small piece of muscle may be readily taken from the patient's arm by the physician, by means of a little instrument (muscle harpoon) made for the purpose, and sold by the instrument makers.





No. 1.—Specimen taken from the Deltoid muscle of Miss A. S., aged 13 years, victim of Trichinosis. Died at Bethlehem, Penna., February 19th, 1886.



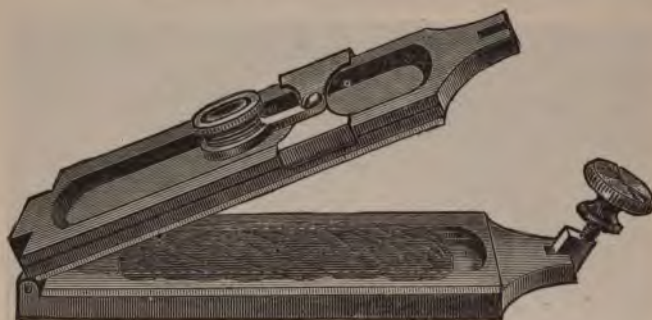
No. 2.—Another specimen from the same case. Length of Trichina stretched out, 1.30 inch; diameter, 1-700 inch. Magnified 38 diameters.



No. 3.—Specimen taken from the pork which caused the death of Miss A. S. and her mother, Bethlehem, Penna., February, 1886.



No. 4.—Single Trichina, magnified 280 diameters.



No. 5.—The Trichinoscope.



No. 6.—Mode of using the Trichinoscope.

**VI. RECOMMENDATIONS IN REGARD TO THE CARE OF INFANTS.**

---

**Cleanliness.**

To infants, cleanliness is life, filth is death. The child, to retain health must be clean, and its surroundings must be clean. It needs a clean skin, clean clothes, clean water, clean food and clean air. It should be bathed night and morning in a warm room, away from any draught, and in water from which the chill has been taken. As the child grows older, and in the summer time, cooler water may be used. The body should be cleansed from head to foot, with a soft sponge, or a piece of fine flannel; use only a little pure soap, and keep it away from the eyes. Dry the whole body with a dry, warm towel, using but little friction, for active rubbing and strong soaps are injurious to the skins of babies. In the summer time, the child may be left in the cold bath ten or fifteen minutes, but a child should never become chilled while bathing. In all cases, when the bath seems to injure the child, consult the family physician.

Change the napkins as soon as soiled. Don't use them a second time until they have been washed. If possible, don't dry them in the same room in which the child lives.

**The Premises Must be Kept Clean.**

This applies to the house, yard, garden and to the neighboring streets, alleys, gutters and lots. Keep the house cool, clean and well aired. Never permit it to get musty and damp. Keep the cellar clear of all decaying vegetables, or other offensive or mouldy material; white-wash it frequently, and see that it is well aired. Death lurks in the darkness and dampness of many a cellar. In country places, throw the kitchen waste as far as possible from the house, the cistern and the well, and frequently disinfect the place with quick-lime or cover it with fresh earth. Locate the privy as far as possible from the house and the well, and keep it free from all odors by the frequent use of copperas, lime or fresh earth, or coal ashes. The dry earth system only should be used in the country and in villages. Keep every part of your own premises clean and insist that your neighbor does the same with his.

**Fresh Air.**

Let the child be in open air as much as possible, except on very cold, very windy, wet or damp, chilly days. Do not take it out too early in the morning, or keep it out late at night, or in the middle of the day expose it to the direct rays of the sun; with these precautions, if in cold weather it is thoroughly bundled up in woolen clothing, it can hardly be out of doors too much. Except in the hottest part of day exposure of the child to the direct rays of the sun will do it good.



A brown skin means health to a child. Air should circulate freely through the house, the windows being opened for this purpose every day. Especial care should be taken to give the child an abundance of fresh air, when it is sleeping, care being taken to avoid draughts. When the air in the house seems damp, it should be dried by a fire in the grate or stove. All residents of cities who can afford it should send their children to the country during the heated season.

#### Clothing.

The clothing of infants should be light and loose, permitting free use of the limbs. Dr. Felix Oswald truly says: "If many children could use their limbs more, they would use their lungs less." They should be clothed much more lightly in summer than in winter; for in the one season, cold kills many babies, and in the other heat kills them. All sudden changes of temperature should be promptly met by appropriate changes of clothing. Don't permit the common deadly practice of leaving the arms and legs bare, but clothe every part, except the head, warmly. Woolen clothing is the best, and should always be worn in the winter; and even in summer it is best that a thin flannel shirt be worn next the skin. If this is thin, it will not be much warmer than if of cotton, but very much more healthful. Many mothers make the mistake of too warmly dressing their babies and children in the summer months. The flannel worn should be thin in summer and thick in winter. Never permit the child to wear the same clothing night and day, but completely undress it at night and hang up the clothing so that it will air through the night.

#### Sleep.

Let babies and young children sleep all they will, for sleep is an absolute necessity for their vigorous development. They should regularly be laid to rest at stated times, away from noise and the light. The child from the very first should be taught to go to sleep in a cot, without being rocked, nursed or carried about. No kind of cordial, spirits, syrups, sleeping or soothing drops, or any other remedies should ever be given by the nurse or mother to make a child sleep. If the young child is sleepless, it is ill, and medical attendance should be summoned. It is a bad habit for mother and child to go to sleep while the child is nursing in bed. Children from two to six years of age are often cross and ill-natured for want of sufficient sleep.

#### Nursing.

A mother whilst nursing ought to live well and generously, but not carelessly nor grossly. Spirituous or malt liquors should not be used unless prescribed by the family physician. The mother should remember that what would produce colic in the baby if eaten by it, will often produce this trouble in it when eaten by the mother, and thus



by care in her own diet, she may save herself much trouble and her baby much pain. If she suffers from giddiness, palpitations, shortness of breath, night sweats or feels exhausted as the child nurses, or if her milk seems to disagree with the child, she should consult a medical man concerning the propriety of weaning the child. Pure, healthy breast milk is the best food for babies, and so long as the child thrives upon it, and the supply is sufficient, it needs nothing else. Nurse a child at regular intervals; under two months, every two or three hours during the day and three or four times during the night. At six months, five or six times during the twenty-four hours. Do not fail to give the baby water to drink several times each day. Babies relish and need it as much as older people. Do not nurse the baby to stop its crying; but only at the regular intervals. A child should not be weaned suddenly, but by degrees. After the ninth month, it should be weaned; but never just before or during the hot season. Before the child is six months old, if the mother is weak, but her milk still agrees with the child, it may be fed on cow's milk alternating with the mother's milk. If the supply of breast milk is very small, but still agrees with the child, it should still be continued as a safeguard against illness. The mother's own milk is usually to be preferred to that of a wet nurse.

#### Food. .

A very frequent cause of the early death of young children is improper feeding. The natural food for babies is the breast milk of its own mother, next that of a wet nurse; lastly, unskimmed cow's milk or goat's milk; the latter is very nourishing and easily digested. For young babies remember that milk and milk only should be used as food. They need no gruel, butter, honey or castor oil; these things are all worse than useless—they are dangerous. Too much care cannot be exercised to secure pure milk. It is now believed that milk derived from a number of cows is better than that from one cow. If from one cow, care should be taken not to get it from a cow which has been milking too long, since milk frequently deteriorates from this cause; also, when the milk disagrees with the child, it will be well to change the cow. As soon as the milk is received, it should be placed on the stove and brought to a boil, then placed in the coolest place—on ice or in the well. The vessel in which the milk is kept should daily be scalded out with boiling water and cleaned with soap, being kept perfectly pure and sweet. Earthen or glass or stone-ware vessels are preferable to tin ones for keeping milk in. Never give a baby sour or musty milk; it must always be sweet and pure, and freshly prepared each time; if sour, throw it away and get some fresh; it cannot be safely sweetened. When fed to the child, the milk should be diluted with one-fourth or less water, and a little sugar added; but before you add water, be sure that the milkman has not previously

added it. If the undiluted milk agrees with the child, use it. Use "condensed milk" if the fresh cannot be had pure. Under six months, children can be stuffed with, but not nourished by, corn, flour, arrowroot, baked flour and all other kinds of starchy foods. These are of no value at all to children under six months, and they may be and often are starved to death on these things.

Where the child has cut its front teeth, it should have some light food, as bread, baked flour or milk biscuits added to its milk. Once a day, it may have meat broth or beef tea, with bread or biscuits soaked in it—or the yolk of an egg lightly boiled. When it is a year and a half old, it may have some fine chopped meat, but milk should still be its principal food. At two years, it may eat of corn meal mush, rolled wheat, oat grits, etc., but such food as solid meat and potatoes, fat pork and fish, which form the food of adults, should on no account be given to babies. Do not give any of the patented baby foods sold at the stores, unless on the advice of your family physician. Creeping and crawling children must not be permitted to pick up unwholesome food.

The nursing bottle needs special attention. It should be oval, with no corners or rough places in which the milk may lodge and become sour. A plain black rubber nipple to slip over the mouth of the bottle is the best pattern. Never use the elaborate and complex nipples with glass and rubber tubes attached, because they cannot be readily cleansed; and they also invite in the baby the habit of sleeping with the nipple in the mouth, a thing which should never happen. Both bottle and nipple should be thoroughly cleansed in boiling water after each using, and then kept in cold water to which a little baking soda has been added, until used again.

#### Summer Complaint.

July, August and September are the worst months, and the "second year" the dreaded period of the child's life. As preventive measures, are recommended: 1. The nursing of the child over the second summer, when this can be properly done, if her milk agrees with the child, and the mother is not exhausted. 2. The wearing of a thin flannel shirt by the child all through the summer. It should be thin, and in hot weather very thin. 3. Feeding only milk or other food known to be fresh and absolutely pure. 4. Whenever possible, babies should spend the summer months in the country. If the above precautions could always be carried out, summer complaint would be almost unknown. With care the disease can be greatly diminished. At all events, during the summer months, give the child pure water to drink at frequent intervals, for it needs water to supply that lost by the perspiration. Bathe it in cool or tepid water twice a day. Keep it in the open air as much as possible and where the air is pure. Don't permit it to have any sour, unripe, over-ripe, or half decayed

fruits. Even ripe fruit may cause injury if the child be allowed to indulge at will. If the dejections are very offensive and the bowels tight, give a dose of castor oil or of spiced syrup of rhubarb on retiring at night. For pain in the bowels give a few drops of essence of peppermint in sweetened water. Ten drops may be given and repeated as often as required, for this drug produces no bad results. Give no laudanum, no soothing syrups, no paragoric, no teas, or any other drugs, medicines, or remedies, unless directed by the family physician.

#### **The Diseases of Childhood.**

It is the common belief that measles, scarlet fever, whooping cough, mumps, diphtheria, and the other diseases of childhood are necessarily contracted by every child. This is a mistake. These diseases are all contagious, and pass from person to person, by actual contact. By great care, their spread may be much restricted and the lives of many children saved. When these diseases prevail in a community, it is best to withdraw the children for a time from the day and Sunday schools, and so far as possible, to isolate them from other children. In no case should they attend the funeral of a person dead from any of the above diseases, and in case of scarlet fever and diphtheria, it is best for parents to remain away as much as possible from houses where they prevail, no matter in how light a form.

BENJAMIN LEE, M. D.,  
*Secretary.*

---

### **VII. TO THE MEDICAL PROFESSION.**

---

#### **The Importance of Caution and Precision in the Diagnosis of Typhoid Fever.**

At the conclusion of a recent report of an inspection in a rural district, of the prevalence of typhoid fever in which exaggerated rumors had been spread, causing much uneasiness, Prof. Wm. B. Atkinson, Medical Inspector of the Delaware District, makes some observations on the unfortunate results of hasty diagnosis in fever cases, which the Board considers of sufficient importance to warrant their distribution in connection with the circular on "Precautions against Typhoid Fever," earnestly hoping that their persual may lead to greater caution and precision in the use of this always alarming designation. They are substantially as follows:

"In this connection, I would remark upon the ease with which a sensation is created from slight foundation. Unfortunately, members of our profession are not always as exact as they might be in their diagnosis or their nomenclature, and so every fever may be carelessly



called typhoid, every sore throat diphtheria, and thus alarm is caused, and an epidemic is created on paper.

"Perhaps one difficulty is the apparent confusion as to the diagnosis of Enteric (Typhoid) Fever. In many instances, at the outset of an illness, there may be a continuation of febrile symptoms for a few days, with looseness of the bowels; the name of this disease is suggested and the attendant carelessly allows himself to accept it, and when a little later the case rapidly convalesces, he is loath to be regarded as having made a wrong diagnosis. Thus another case of aborted typhoid is added to the list. Absence of epistaxis, of iliac tenderness, of tympanitis, of continued high temperature, of emaciation, of the peculiar eruption, all should cause the physician to hesitate as to pronouncing the case one of typhoid fever. Among the laity the use of the word typhoid indicating a low condition, as typhoid pneumonia for example, is regarded as meaning a kind of typhoid fever. I have not seldom found this error to prevail in the profession as well, and thus is propagated an additional means by which the public is falsely led to believe that typhoid fever is epidemic in certain localities. Recently I have encountered a number of such instances, and more than once, through the medium of the press, it has been heralded to the public that an epidemic of this fever is prevailing, thus causing a feeling of alarm which is extremely liable to work injury to business, and also to the health of people of a nervous temperament. I would, for these reasons, most earnestly urge that your Board should take some steps to bring this matter to the notice of the profession, in order that its members may no longer act as alarmists, and at the same time bring discredit upon our general knowledge. (As long as the diagnosis is in suspense, however, all the precautions suggested by the Board as essential in the care of typhoid cases should be observed.)

"We may view this matter as even of greater importance when we reflect upon the fact that another and still more alarming disease is at our doors. Should it gain an entrance, with similar want of diagnostic skill or care, every case of cholera morbus would then be termed cholera and the direst results would be sure to follow."

In connection with the subject of typhoid fever, the attention of both physicians and the public in rural districts is solicited to the following description of

#### A Cheap and Convenient Earth Closet,

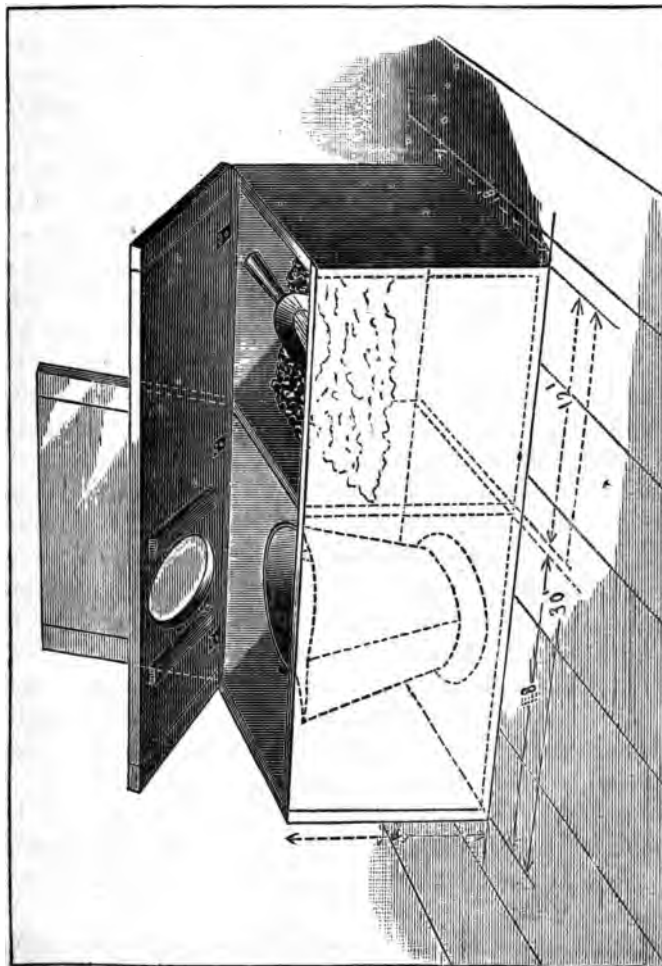
principally copied from the Chicago "Sanitary News," and from the pen of Mr. J. C. Bayles, a well known sanitarian:

"When water-closets cannot be made available, the earth-closet will be found of the greatest convenience and benefit. In addition to the well-known dangers attending the neglected accumulations in privy vaults, few things are more destructive to health and comfort



than dependance upon one of these dreadful out buildings. A visit to one of them involves an amount of exposure in cold weather which even strong men have reason to dread. In the case of women, children and invalids, what can be worse than a plunge out of doors in cold or stormy weather, usually without the precaution of extra clothing or overshoes, for a visit to the foul shrine of Cloacina? The neglect of regular attention to the calls of nature which the dread of this exposure induces, tends to encourage women and children in disregarding them as long as possible, until the evils inevitably attendant upon the habit of constipation, much too prevalent in this country, are induced and confirmed. The head of a family who makes no better provision than an out-door privy for the needs of his household, neglects the most obvious as well as the most selfish of his sanitary duties. The accompanying sketch requires but brief explanation:

"The body is a plain pine box. Its sides are not over 14 inches high; its depth is 18 inches (measuring from foot to back), and its



length about 30 inches. It is divided into two compartments, one 18x18 inches, and the other 18x12 inches. The larger of these compartments has no bottom; the smaller has a tight bottom. On top are two covers. The lower cover, hinged to the upper edge of the back, extends all the way across both compartments. In this is cut the seat, † over the center of the larger compartment. The upper cover is hinged to the lower one, and may be raised independently. It is made the size of the larger compartment only, both covers having a little overhang to facilitate lifting them. The material in, and work on, such a box will cost anywhere from \$2.00 to \$3.00, according to the amount of finish put on it by the carpenter.

"The receiving vessel is a galvanized iron coal hod, as large as will stand in the larger compartment with the covers down. The smaller compartment is filled with dry earth, ashes, peat-dust, or whatever is used as deodorizer, and a little hand-shovel or scoop, is laid in. The closet is then ready for use, which should be preceded by throwing into the coal hod as much of the dry material as is needed to cover its bottom an inch deep. When used, the upper cover is raised, exposing the seat. After use the lower cover is also raised, uncovering both compartments. A small quantity of the dry material is then taken in the scoop and sprinkled over the contents of the hod. A quart is usually more than sufficient. This operation is repeated whenever the closet is used, until the hod is full, when, of course, it must be emptied. Its contents will turn out as a solid mass, inoffensive to sight and smell. Even the most fastidious person, with strength enough to carry the full hod out of doors would make no objection to emptying it. Occasionally, it is well to air and sun the hod after emptying. No other cleansing is required. It is better not to use an earth-closet as a urinal, but so much of such use as is incidental to its employment as a stool in no respect interferes with its satisfactory workings. Slops should on no account be poured into it.

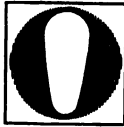
"The best of the materials for use in an earth-closet which can be had without expense or trouble, is the fine siftings of anthracite coal ashes. Ashes from bituminous coal are not adapted to the purpose. Dry, loamy earth, or leaf-mould, will answer very well, but it is troublesome to dry and store it. It cannot be had dry enough out of doors, even in mid-summer. Sand is useless.

Discreetly and decently used, an earth-closet gives very little trouble. If ashes are thrown in after each use, it will not require any attention until the receiving vessel is full. The object of leaving the larger compartment bottomless, is to facilitate cleaning. More or less ashes will be spilled around the hod, and this should be swept out frequently. By raising one end of the box, the floor under it can be swept much cleaner than the bottom of a box could be without turning it over.

*Such an earth-closet can be placed and used anywhere indoors. No*

doubt it could be made a nuisance, especially if boys were permitted to saturate the wood with urine, if a person using it should forget to use ashes, or if the hod were left to become overfull and matter intended to be held in it should roll off on the floor. It needs attention like every other good thing, but, given as much care as would be bestowed upon any other article of furniture, it meets all the requirements of a safe and convenient indoor commode."

† NOTE.—The hole in the seat should be long from front to back, but narrow from side to side, never made circular with a pair of dividers, as a country carpenter will invariably make it unless otherwise instructed. The proper dimensions are 11x4 inches. The edges should be moderately beveled. This shape will make the act of relief much easier and tend greatly to prevent that



painful disease hemorrhoids.

EXECUTIVE OFFICE.

*December 1, 1887.*

## VIII.

**TRANSIT.**  
"Stub" to be retained by official issuing Permit.

**TRANSIT PERMIT.**

1. Issued to .....
2. Name of Deceased, .....  
[If a minor, give parents' names.]
- .....
3. Interment at .....
4. Date of Death, ..... Age, .....
5. Place of Death, .....
6. Cause of Death, .....
7. Certified by .....

M. D.

*This Permit must in all cases accompany the body to its destination.*

**COMMONWEALTH OF PENNSYLVANIA.** Form 7.

[To be issued by any State or Local Health Official.]

**TRANSIT PERMIT.** [FOR PUBLIC CARRIERS.]

R. B. Agents {  
and all other Carriers }  
see Back of Permit.

Office of ..... County.

Permit is hereby given to remove the remains of .....  
aged ..... who died at .....  
on the ..... day of ..... 18. ; the cause of death being .....  
..... and a Transit Permit being asked for burial at .....  
in the State of .....

(Signed by) .....

Name of Undertaker or person in charge of the Transit. ....  
[Official title.] .....  
[P. O. address.] .....

**TRANSIT PERMIT.**

Issued at ..... County, Pa.

To whom issued, .....

Name of Deceased, .....

Date of Death, .....

Name of person or Carrier in charge, .....

Date of Transit, .....

Railroad and Steamboat Agents, Ferry-Masters and all Carriers that convey the remains over the limits of the County where death occurred, with the exception of the Coupons herein attached, and deliver the body only to the persons holding this permit. The name of the deceased must appear on the Coupons, which will be returnable to the city or place through or out of which the body is first conveyed, or to such authority as may be directed by the person who issued the Permit.

The 1st Coupon should be taken by the Carrier who transports the body from the county where the death occurred, and the 2d by the Agent of the County where the Agent of Transportation upon the route beyond said county, and it may be so taken at either terminus of the distance over which the second stage of transportation extends as the local sanitary regulations may require; but whoever detaches and takes said 2d Coupon must write across the back of the Permit, as well as upon the 2d Coupon itself in the space at the left of these directions, as follows:

2d Coupon taken at .....

by .....

Such an indorsement will answer instead of further Coupons whenever the body is conveyed; and the Permit is to be surrendered at the place of burial. It, as well as every Coupon, should be preserved.

SECOND } Taken at .....

Coupon } By .....

Coupon No. TWO, to Transit Permit of .....  
(Name.)

Before this body leaves .....  
the Carrier or Transportation Agent will tear off this Coupon. If otherwise detached from the Permit, the Coupon must not be received. (See back of Permit.)

Coupon No. ONE, to Transit Permit of .....  
(Name.)

Before this body leaves .....  
the Carrier or Transportation Agent will tear off and keep this Coupon. If otherwise detached from the Permit, the Coupon must not be received. (See back of Permit.)

First Coupon.



IX.

[Form 8.]

COMMONWEALTH OF PENNSYLVANIA,  
STATE BOARD OF HEALTH,  
EXECUTIVE OFFICE, . . . . . 18 . .

To . . . . .  
Secretary of the Board of Health of . . . . .

DEAR SIR:

In compliance with the Resolutions printed herewith, it becomes my duty to inform you that . . . . . case . . of . . . . .  
. . . . . exist . . at . . . . . in the County of . . . . .  
in this State, in the person of . . . . .  
(Resident or immigrant) . . . . .  
The origin of the disease is . . . . .  
. . . . .  
. . . . .

The following precautions have been taken: . . . . .  
. . . . .

You are authorized and requested by this Board to take such further measures for the protection of your territory, in conformity with the terms of the resolutions, as in your judgment may be deemed necessary.

I have the honor to be  
Your obedient servant,

*Secretary.*

N. B.—This information is confidential, for the use of your Board only, and not intended to be given to the public.

X.

[Form 9.]

COMMONWEALTH OF PENNSYLVANIA,  
STATE BOARD OF HEALTH,  
EXECUTIVE OFFICE, 1532 PINE STREET,  
PHILADLPHIA, . . . . . 188

DEAR SIR:

In accordance with the report of Inspector . . . . .  
. . . . . the State Board of Health declares the condition of . . . . .  
. . . . .  
. . . . .

to constitute a nuisance prejudicial to the public health. I enclose duplicate orders for its abatement which I will request you to serve or cause to be served by a constable or other trustworthy agent, one to be left on the premises, the other to be returned to me with date of service and name of server endorsed thereon. I shall esteem it a special favor if you will notify me at the expiration of the limit of time allowed in the order, whether the parties maintaining the said nuisance have begun to take the necessary steps for its abatement.

Yours very respectfully,

.....  
*Secretary and Executive Officer.*

---

XI.

---

COMMONWEALTH OF PENNSYLVANIA,  
 STATE BOARD OF HEALTH,  
 EXECUTIVE OFFICE, . . . . . 188

DEAR SIR:

Your communication of . . . . .  
 complaining of a nuisance existing on the premises of . . . . .  
 . . . . .  
 township, . . . . . county, is received. I would say in  
 reply that it is the decision of this Board that it was created for the  
 protection of the public health, and not for the abatement of private  
 nuisances. Individuals suffering from individual nuisances, have their  
 resource in a suit at common law or complaint to the local authorities.  
 In order to entitle a complaint to recognition by this Board, it should  
 emanate from a City or Borough Council, a Burgess, acting in his  
 official capacity, a Board of Health or a Health Officer, a Board of  
 Education, or ten respectable citizens (house-holders or rent-payers)  
 uniting in an affidavit before a Notary or Justice of the Peace. I en-  
 close a blank form of complaint, which will be duly considered if re-  
 turned signed as above indicated.

Yours very respectfully,

.....  
*Secretary.*

**XII.**

[Form 12.]

COMMONWEALTH OF PENNSYLVANIA  
STATE BOARD OF HEALTH,  
EXECUTIVE OFFICE,  
PHILADELPHIA, . . . . . 188

Dr. . . . .

DEAR DOCTOR: The State Board of Health requests that you will keep a record of all cases under your care in connection with the present epidemic at . . . . ., and report to this office at the end of each week, giving name of patient, sex, age, when taken sick, water used, character of illness, result, and any other points that you may deem of interest. Whether all the cases are Typhoid Fever or not, the interests of the public health demand that their excreta should be treated as though they were. You will therefore give positive instructions to have all discharges disinfected on passing, and then buried. The sick must not be allowed to use the same outhouses as the well even during convalescence. All the privy vaults and cess-pools in the neighborhood should be disinfected, emptied, and then disinfected again. The enclosed circular contains instructions for disinfection.

I have the honor to be,

Yours respectfully,

. . . . .  
*Secretary and Executive Officer.*

**XIII. REGULATION OF TRAVEL AND TRAFFIC.**

COMMONWEALTH OF PENNSYLVANIA,  
STATE BOARD OF HEALTH.

Regulations in Regard to the Disinterment and Transportation of Dead  
Bodies.

**DISINTERMENT OF BODIES.**

*Rule I.*—The removal of any body from its place of original interment is declared to be a nuisance dangerous to the public health, and is prohibited, unless the same be done under the direction and by permission of the local board of health or borough council.

*Rule II.*—The above rule applies as well to the removal of a body from one grave or vault to another in the same cemetery as to its removal to another burial ground or place.

16 BOARD OF HEALTH.

*Rule III.*—The removal of dead bodies from any burial ground situated within the built-up portions of any city or borough is forbidden between April 1 and October 15.

*Rule IV.*—The disinterment of the body of any person who died of any contagious or infectious disease is strictly prohibited, unless by special authority, and upon such conditions as the local board of health or borough council may impose.

#### TRANSPORTATION OF BODIES.

*Rule I.*—The transportation of bodies of persons who died from small-pox, Asiatic cholera, typhus fever or yellow fever is strictly forbidden.

*Rule II.*—From October 15 to April 1, all other dead bodies may be transported without restriction, except those who died of diphtheria, scarlet fever, typhoid fever or measles, which must be enclosed as prescribed in Rule III.

*Rule III.*—From April 1 to October 15, all dead bodies, when presented for transportation, must be enclosed in air-tight zinc, copper or lead-lined wooden boxes, or in air-tight iron caskets; or, if in any other form of coffin, said coffin must be in a hermetically sealed box, enclosed in a manner satisfactory to the local board of health, health officer or borough council.

*Rule IV.*—No person or article which has been exposed to the contagion can accompany the body.

*Rule V.*—Every dead body must be accompanied by a physician's certificate of death, and a certificate from the shipping undertaker that the body has been prepared for transportation in accordance with the rules of the State Board of Health of the Commonwealth of Pennsylvania.

*Rule VI.*—In receiving any dead body which has been shipped from beyond or within the States of New York, New Jersey, Delaware, Maryland, West Virginia or Ohio, or the Province of Ontario, the rules of the State or Provincial boards of health of the same must be respected, and their transit permits will be honored without subjecting the body to delay, provided such rules do not conflict with any of the preceding rules in these regulations.

*Rule VII.*—The following shall be the form of a transit permit for the transportation of a dead body within, into, or out of, the limits of the Commonwealth of Pennsylvania:

(See form 7.)

(NOTE.—The rules and regulations of the State Board of Health are laws to be obeyed by every individual in the State.)

By order of the Board.

BENJ. LEE,

*Secretary and Executive Officer.*

STATE CAPITOL, HARRISBURG, November 10, 1886.



**XIV. REGULATION IN REGARD TO INTER-STATE NOTIFICATION OF THE EXISTENCE OF INFECTIOUS AND CONTAGIOUS DISEASES.**

---

The following are the resolutions, adopted by the International Conference of Board of Health, at Toronto, October 6, 1886, with slight verbal modifications.

WHEREAS, It is necessary for the protection and preservation of the public health that prompt information should be given of the existence of cholera, yellow fever or small-pox; be it *Resolved*,

1. That it is the sense of the National Conference of State Boards of Health, that it is the duty of each State and Provincial Board of Health within whose jurisdiction any of the said diseases may occur, to furnish immediate information of the existence of such disease to boards of health of neighboring States and Provinces, and to local boards in such States as have no central board, in which the duty of notification shall lie upon the local boards.

2. That upon the prevalence of rumor of the existence of pestilential disease in any State or Province, if positive definite information thereon be not obtainable from the proper health authorities, this Conference holds that the health officials of another State are justified in entering the before-mentioned State or Province for the purpose of investigating and establishing the truth or falsity of such reports.

3. That whenever practicable, the investigations undertaken under the preceding section shall be made with the coöperation of the State or local health authorities.

4. That any case which presents symptoms leading to serious suspicion of the existence of one of the aforementioned diseases, shall be treated as suspicious, and reported as provided for in cases in which the diagnosis is certain.

5. That any case respecting which reputable and experienced physicians disagree as to whether the disease is or is not pestilential, shall be reported as suspicious.

6. That any suspected case respecting which efforts are made to conceal its existence, full history and true nature shall be deemed suspicious and so reported.

7. That in accordance with the provisions of the foregoing resolutions, the Boards of Health of the United States and Canada represented at this conference, do pledge themselves to an interchange of information as herein provided.

---

I certify that the foregoing resolutions were endorsed and adopted as a regulation, by the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania, at a regular meeting held November 10, 1886.

BENJAMIN LEE, *Secretary*.

The following resolutions, explanatory of the above, were adopted by the International Conference of the State Boards of Health, at Washington, September 8, 1887:

*Resolved*, 1. That the conference re-affirms the principals contained in the resolutions adopted by it at its meeting in Toronto in 1886.

2. That the communicable diseases hereinafter mentioned, prevalent in certain areas, or which tend to spread along certain lines of travel, be reported to all State and Provincial Boards within said area or along said lines of communication.

3. That in the instance of small-pox, cholera, yellow fever and typhoid fever, reports be at once forwarded, either by mail or telegraph, as the urgency of the case may demand; and further that in the instance of diphtheria, scarlatina, typhoid fever, anthrax or glanders, weekly reports, when possible, be supplied, in which shall be indicated, as far as known, the places implicated and the degree of prevalence.

---

I certify that the foregoing resolutions were endorsed and ordered to be appended to those already adopted, by the State Board of Health of Pennsylvania, at a regular meeting held November 9, 1887.

BENJAMIN LEE,  
*Secretary.*

## APPENDIX G.

---

[The annual address delivered in the Hall of the House of Representatives, Harrisburg, April 14, 1887.]

### STATE HYGIENE.

---

By the HON. E. A. WOOD, M. D., of Pittsburgh, Pa.

---

Sanitary Science is an element of high civilization. There can be no advanced civilization without sanitary science, any more than we can have high civilization without the printing-press, steam, electricity or education. Take away any of these elements and society slides backward toward barbarism; take them all away and you leave mankind barbarians. A nation that refuses or neglects to incorporate unto itself applied sanitary science must stand still sphinx-like, while a desert gathers about and the drifting sands bury it from sight.

That the Commonwealth of Pennsylvania has engrafted into its corporation this child of progress is a mark, not only of patriotism, but is also the evidence of advancing civilization. It is an earnest that no moss is to grow over our institutions, that no drifting sands from that fatal desert, fogyism, shall bury our civilization.

But the mere enactment of sanitary laws and the establishment of a board of health will not secure to the people the blessings of good sanitation. There is work, much work, to be done before we can realize the highest good of the new health institution. Of this work I wish to speak to you in a suggestive way to-night, asking you to consider that I undertake this duty at the request of the members of the State Board of Health, whose mouth-piece, for the time being, I am.

The first thing to be considered is, that, outside of a few persons, a knowledge and appreciation of what sanitary science is, and what a State Board of Health can do, is almost entirely lacking among the people. Scientists, sanitarians, physicians and a few others, know, because it is either in their line or because they are inclined to general culture. The legislators who passed the bill creating a health board were most likely largely ignorant of the subject; they enacted the law on trust, and on trust the people received it, because those who did know said it was a good thing to do. Now, while we may praise the spirit by which a State Board of Health was established, we may well tremble for its destiny when we remember that legislators and the people will not go on year in and year out maintaining a health board on mere blind trust. To perpetuate itself it must afford some tangible and practical good. If I were asked what is the most

alarming menace to the perpetuity of our State Board of Health, I would answer, ignorance,—ignorance among the people of its principles, its functions and its power for doing great good.

This Board of Health is on trial. It is new to the people, and untried in its effects. The good it can do cannot be realized in a year or two years; its good will increase each year as it becomes more efficient, and gains the coöperation of the populace. In the meantime the people must be educated to wait, not wait to be educated; they will not wait without the education.

No free people ever accepted an institution that did not commend itself to their understanding. A mysterious law would be a dead letter, and an uncomprehended institution would be a farce. The people must be educated in a practical knowledge of what sanitary science is, and what it will do when applied by a health board. They must be convinced that it will benefit them before much good will or can come. The new institution must be founded on popular favor, or it will end in failure. An unpopular law and an unpopular institution are alike inoperative among freemen. The Sunday laws are dead letters to-day, and the people never took kindly to the Fugitive Slave Law. Sanitarians cannot of themselves keep the board of health alive; the united efforts of sanitarians and legislators will not make the institution effective unless you have the people with you heart and hand.

Civil law in a government such as ours must have popular sanction or die of dry rot. Laws dusty with worn-out issues of ages forever gone, and laws formulated for the anticipated civilization of a hundred years to come, will alike be inoperative. Civil law in this Commonwealth must have just that vigor that will keep it abreast of the times, neither lagging behind nor forging too far ahead of the age. The State Board of Health law is a little ahead of the times, but just far enough in advance to incite the people to catch up with it. This they must do, and until they do the board of health institution will live a critical existence of trial.

There are two factors in human progress which are too often lost sight of—the people are tenacious of established methods and opinions, and distrustful of innovation. A new idea taking the place of an old one is more painful than that of the permanent teeth taking the place of the milk teeth. It is true that individuals are often radically progressive—the people are always conservative. Every grand work that has blessed mankind won its place by breaking down old prejudice, and conquering conservatism. It took years and martyr heroes to educate the masses up to an appreciation of the enormity of human slavery. It took an internecine war to establish the lesson even after it was learned. Our system of free schools, which now so commends itself to popular favor, had a bitter and long contested fight before it became established as a State institution. As the people hesitatingly



accepted the free-school system, and as they now pride themselves in that institution, so will they, when better informed, accept with pride the system of State sanitation.

If there is any legislator here who is in doubt concerning his duty relating to the State Board of Health, I respectfully ask him where he would prefer to have stood when the question of human liberty shook this land, where would he have stood when the free school question agitated the people of this Commonwealth, among the conservatives or among the radicals, among foggyites or among the progressionists, among the do-nothings or among the heroes? The opponents of those measures, and those who stood aloof, are spoken of with bated breath, while the actors and heroes of those times and measures ring on the tongue of praise. The time will come when the rise of the board of health law will stand with the grand achievements of the age.

It is time the people should know that man was not made to be racked with pain, or broken by disease. When one sickens it is because of physical sin; a broken law is at the bottom of every bodily ill, and the man who dies before old age, is as clearly sacrificed as is the felon strangled on the public scaffold. The world rings with indignation when it learns of the hanging of an innocent man; how it should howl at the appalling array of premature deaths! Mankind is often its own executioner. Tolerating disease is a crime, and every premature death a murder.

Fellow-citizens of Pennsylvania, the sanitarian sees you and your loved ones surrounded with dangers the most imminent and deadly; he sees the poison in the cup, the precipice before you, the flood of death around you, and he raises his voice in warning, he stretches forth his arm in rescue.

One of the most effectual means by which the people may be led to take an interest in sanitation will be the work of the board of health itself. That board will attract to it, and organize for work, the scientists, the real teachers of this age.

We want new fields of thought run through with the shining plow of science. We want to set the statician at work collecting and collating facts relating to diseases, their causation and prevention. We want to set the chemist at work with his analysis, and the physicist with his microscope and spectroscope. Such an organization is possible only by State aid, and its advantages are simply incalculable. No grudging appropriation should stand in the way of the most thorough and efficient organization. In no other way can we hope to discover the whole truth about the ultimate causation of disease, and in no other way can those causes be exterminated.

The people of this State have hitherto received but small benefit from sanitary science, but it is now possible if the hands of the board are not tied by meagre appropriations. This board will attract to it and organize into one co-operative body the men and the measures

connected with public health, men and measures which will move with a singleness, earnestness and directness of purpose that will bring forth the most astonishing results.

Disease has too long had malignant sway; let us try the benignant rule of Hygieia. The suffering from preventable diseases and the consequent loss of life must be laid at the people's door, and the only mitigation is in their ignorance. Thousands of graves, too short for humanity, but not too deep for remorse, dot, as with marks of despair, the hillsides of our beloved State. How much keener the remorse, and how much deeper the despair when we are brought face to face with the awful truth that the diseases of children are nearly all preventable. From every churchyard dead children rise up in judgment against us. The only power to lay these sad ghosts is an efficient board of health.

I know how prone radicalism is to run over into hyberbole. Of all the places in the world and of all the subjects, this is the place and this the subject where I should guard against extravagant expressions. I desire rather to understate than tell the full and awful truth. No one can afford to exaggerate on a subject so pregnant with good to our race, nor is there need to exaggerate; the truth plainly and briefly told is all-sufficient.

Am I stating the case too strongly? Can the importance of organized sanitation by the State be stated too strongly?

Yes; to a people steeped in ignorance and superstition. Oriental heathen encamped by millions about Brahma's mystic temples would listen to no appeal outside of priestly oracles. In their camps along the Ganges where they breed cholera, a plague that spreads wider than their creed and kills more than their Juggernauts, they would heed no statement of mine. The dark-skinned hordes of the upper Nile, as they gather about their fetich to charm away a demon, would not be warned of that more deadly demon, the malaria of the jungle. The case may be put too strongly for some even in this land, who with fanatical frenzy still persist in believing that dead children, weeping mothers, and stricken households are but the awful visitations of God. But I am not addressing oriental heathen, nor fanatics blinded by sullen conceit; I am addressing American civilization; I am appealing to an enlightened people, to the people of a free State, a State with thousands of schools and academies, a State that holds Independence Hall. And to this people and in this hall, the fittest of all places to speak to them; this hall the common forum of the common weal, I solemnly and earnestly declare, that with them and on you as their representatives rests the responsibility of stamping out the preventable diseases that are the special scourges of the inhabitants of Pennsylvania.

If there is a special class of citizens whose opinion merits your regard on the subject of State sanitation, it is that of the physician.

Efficient sanitation will hurt the business of medicine. At a moderate estimate a State Board of Health will reduce disease to the extent of ten, and more, probably fifty per cent., and of course will reduce the physician's income in like proportion. Disease is the doctor's harvest; boards of health shorten the crop. Self-interest would prompt the medical man to oppose health boards, but since he advocates them, his opinion is entitled to that much more weight.

We are fond of saying with Pope; "The proper study of mankind is man," and yet, with the accumulated wisdom of two thousand years, how little the average man or woman knows of himself or herself!

We know all about other people, next to nothing of ourselves. We know the size of the sun, the temperature of the moon, and the weight of Saturn. We spend millions to teach our children the geography and the histories of foreign lands; we study the habits of extinct races that gnawed bones in caves, or slept on piles out on lakes; nay, we even teach the very anatomy of the cave-men and pile-dwellers of antiquity! But how many dollars are spent to teach our children self-knowledge, the kind of knowledge most important of all? Millions of dollars are annually ungrudgingly spent in this State to maintain a system of public instruction which imparts all other kind of knowledge but self-knowledge. No one grumbles at the expense. But if a few thousand dollars are appropriated toward disseminating the knowledge of how to maintain health and prolong life, a general groan of disapprobation comes from over the State like the wail of miser's robbed of their gold!

I am not here to find fault with our public school system, or to protest against the enormous outlay of money to maintain it; but I do think it is mistaken policy to pay out millions to train the mind and refuse thousands to develop bone and brawn. I do complain, that because of the lack of sanitary supervision some ugly evils are beginning to show themselves in our public schools. I do insist that our public schools are lacking in the health department, and they will not be as good as they should be until a State Board of Health brings them all under the influence of applied sanitary science.

Some of the evils that are becoming painfully apparent in our public schools, are threatening to American manhood and womanhood, and if we are to prevent our race from degenerating, we must begin at once and place our schools on a better sanitary basis. In an address to the State Medical Society of Pennsylvania I have already pointed out the evils that threaten our race, and threaten our free schools. For the evils of over-study by the "cramming" system, the evil of training the brain to the neglect of the body and the moral faculties, will not only lead to race degeneracy, but will lead to the ruin of our public school system. To prevent these growing evils every lover of his race, every friend of the free school system must come to the rescue, and come soon, or it will be forever too late. We must set



the sanitarian at work with the school teacher. We must find out how much our children can strain their eyes without injury to vision; we must see how much they can exercise their brains without stunting their bodies, and we must see that they get plenty of outdoor exercise, plenty of wholesome air and sunlight, and plenty of rest and sleep. These things are all neglected at present, or held as of secondary importance; and yet they must be made of first importance, or farewell to American pluck and vigor. The time is come when this Commonwealth must reorganize our public schools on a good and thorough sanitary basis.

A State board of health will awaken inquiry, provoke discussion, incite criticism, and inject its influence into every hamlet of the State. It will open the eyes of the people to a fact which is overlooked, that hygiene not only imparts a healthful life, but also a pure and joyous life. It is astonishing how sanitary science permeates and vivifies every relation and condition of life! We need a State board of health to write over every school house door *Mens sana in corpore sano*. We need a health institution strong enough to compel educators to train our youth physically and morally, that we may have men and women who are healthy as well as learned, virtuous as well as accomplished. We want the crop of disease shortened and life prolonged. We want sanitary knowledge spread among the people, and that these things may be done we must have a board of health clothed with competent authority and quickened by a liberal appropriation of money.

I never could endure to offset a human life with gold, for what is a life compared with wealth? But I know, and you know, of scores of families that would pay the expenses of our board of health, if by doing so they could call back to life a loved form forever faded from sight; a beloved voice whose echo is heard only in a bereaved mother's heart. Whose breast does not throb with regret at the memory of the loss of two children from the households of Governor Pattison and of Governor Beaver? Where is there a man who would vote nay to appropriations that would restore those lost children to their parents? Alas, money or health boards will not

Back to its mansion call the fleeting breath;

but money and health boards will prevent much of such shameful calamities in the future. The executive officer of the present Board of Health, Dr. Lee, traced the cause of those two deaths to faulty sanitation in the executive mansion. Let us stop this terror, let us have fewer bleeding hearts. If money will stop sorrow, then pay it out.

The lack of information about hygiene and sanitation, even among learned people, is astonishing and mortifying. Popular notions on the subject are often wide of the truth. Take, for instance, the popular notion about filth. Let us look at this filth for a moment. On every street and alley may be found the regulation pile of dirt. Now, excepting the question of beauty and cleanliness, affecting only æs-



thetic people, and excepting that dirt pile is used as convenient filth to fill the columns of newspapers, or to spread on the minutes of councils, or to incorporate into the resolutions of indignation meetings, that pile of dirt is harmless. As dirt, or garbage, or filth, it is not detrimental to health, popular opinion to the contrary notwithstanding. The statement that the ammonia generated by the decomposing filth and finding its way into drinking-water is noxious, is not true. The presence of ammonia in such cases, however, is pretty conclusive evidence that while the filth was generating ammonia it was also breeding disease-germs, and that the presence of the former should make us suspect the presence of the latter also.

Again, the popular notion that the stench arising from decaying filth is the cause of disease is fallacious. The essential factor of disease is the germ-fungi, which have no smell, or at least the bad odor does not come from them. But here, again, the stench should make us suspect that germs are also growing in the filth. The foul odor of decaying garbage is more like the beacon that warns of dangerous rocks, than like the rocks themselves. The same sun that breeds singing birds and sweet flowers, also breeds the rattlesnake and the poison plant; the same filth that breeds foul odors, also breeds malignant, disease-producing germs.

Dirt as dirt will not produce disease, but if dirt be sown with a few germs, or disease-producing fungi, they will grow and rapidly multiply therein, until the one time harmless dirt-pile will become the hot-bed of malignant pestilential germs, that scatter far and wide like poison from the Upas, carried by the wind, by flies, by animals—carried hither and thither, sowing other filth with fungi to develop new centers of contagion, tainting food and drink, clinging to the clothes of passers-by, and carried into happy homes to infect them with the mildew of disease and the blight of death. That dirt-pile should be cleaned up, not because it is filthy, but because it is a breeding-ground for the propagation of disease-germs.

But suppose there were no such fungi or germs extant; then all the filth in all the world would not grow them, and dirt-piles would cease to be of interest except as hateful objects. Suppose there were no Canada thistles in existence; then the soil would not grow them. To prevent the growth of thistles we destroy the seeds, not the soil. You may allow filth to accumulate on every street and alley, but not a single case of Asiatic cholera would occur, because there are no cholera germs in America to plant that filth. But woe to the city that allows filth to fester within its limits when the cholera germs do get a foothold in the land! The filth in and about this city would breed typhoid fever, diphtheria, measles, scarlet fever, and other kindred diseases, because they are indigenous—the germs that produce them are ever present with us. So far as relates to yellow fever the people of New Orleans need not concern themselves about filth in cold weather, be-

cause frost kills the fungus which produces that disease, and if that city is revisited with that plague the coming summer it will be because fresh germs are brought from their foreign source, when every spot of filth will become their breeding-ground.

As the germ theory of disease bears an important relation to sanitation, and in order that you may know how a State board of health may prevent germs, let us look a little further into the subject.

Long before the microscope revealed diseased germs, experience, observation and analogy—the mathematics of medical science—taught that the cause of many diseases was best accounted for on the supposition of germs of infection.

When we contemplate the wonderful profusion of visible vegetation, from the oak to the daisy, we are led to believe there is no room for more; and yet the invisible forms of vegetation really outnumber those seen by the naked eye. These microscopic plants or fungi are found in countless myriads everywhere, from the equator to the poles. The botanist has classified them and named them several species. Of them is an order called *Schizomycetes*, comprised of species called *bacteria*, *bacilli*, *micrococci* and others, and this is the order and these the species that cause many kinds of diseases. Now, it is the work of boards of health to prevent the propagation of these microscopic plants. I have no time, nor is it necessary to speak fully of these fungi; the facts I wish to impress on your minds are that they grow from seeds or spores, that they possess distinctive individuality, that each species has its identity just as have oats or barley, or Canada thistles, that these fungi will grow only when planted, that bacilli spores will produce bacilli, bacteria bacteria, just as oats will grow oats, but not wheat, that these fungi grow best in filth and foul air, that their virulence largely depends on the foulness of the place of their growth, that their extreme smallness of size fits them for floating in the air, collecting in wounds, for entering the body by the lungs, the stomach, the skin, and that their presence in the blood manifests itself by the onset of the special disease peculiar to each species. That is to say, the germ that produces yellow-fever will produce that disease and no other; the fungus that produces typhoid fever will bring on that disease and no other, and so on. That is the whole story of disease germs briefly told.

How do we know this story to be true? Why, not only by seeing them with the microscope, but by actually planting the seed of each kind and raising crops of the same, precisely as the farmer plants corn and harvests corn. When bacteria spores are planted, bacteria is the crop. This wonderful achievement sounds like the dynamics of the spirit world; it is work done in the unseen world, and yet it is a hard materialistic fact. Science is finding more things in heaven and earth than dreamt of by philosophy. As a fact it is not difficult of knowing, and the people should know it; they should know that the

sanitarian can weed out disease fungi with almost the same readiness that the farmer weeds out noxious plants. The board of health stands in precisely the same relation to the growth of human beings and domestic animals as the farmer to his crops—both are trying to grow crops and prevent the tares.

Pasteur, of Paris, not only raised crops of various species of fungi, but he learned that by cultivation the fungi became modified, losing much of their malignancy, and that these modified germs produced a modified disease, with immunity in the individual. We have similar experience in the effect of cultivation in some plants, which have become so modified that from bitter or unwholesome fruit we get savory and wholesome food. This is what has been done with some fungi. Pasteur has raised modified germs from the fungi that produce charbon, chicken-pox, and splenic disease in cattle, and his services to supply these modified germs to farmers have been in large demand. Not only man but live stock are benefited by these discoveries. This Pasteur is the man who is now attracting so much notice in relation to rabies and hydrophobia. He claims that by culture he has succeeded in raising germs so modified as to be almost antidotal to mad-dog poison. This latter claim is *sub judice*, but who does not wish him success? and, in the face of past achievements in this direction, who shall predict failure?

This germ theory throws new light on Jenner's vaccination for small-pox. In the latter case the small-pox germ by culture in the udder of the cow becomes modified, and gives a modified disease with future immunity, just as Pasteur's culture germs do.

Don't you see how intelligently and successfully the sanitarian is working out the problem of disease? and cannot you see how hopeful the times are for the eradication of much misery? And, I trust, you will also begin to feel how all important is a State board of health, and that it should be made thoroughly efficient by the fullest authority and the most liberal appropriation of money.

Two short years ago Koch left his bacillus fungus found by him in the sputa of consumptives drying on his microscope in Berlin, while he bled away to eastern climes to do—what? To give to airy nothing a local habitation and a name, for at that time the cause of cholera was airy nothing. He gave to the world his comma bacillus, and the world being told what causes cholera will take such steps as will prevent it from leaving its eastern habitat.

Did ever tales of magic thrill with more startling statements? The Alladin lamp of science is illuminating human footsteps too long taken in the dark. Such men as Koch and Pasteur are brought to the surface by governmental patronage, and by such patronage their works are made blessings to mankind. Is Pennsylvania ready and willing to do her share in this grand humanitarian scheme? We have plenty of latent home talent needing but the encouragement of the State to



bring them to the surface. Will the Keystone of the Federal Arch give the keynote to her sister States by calling these men to the post of wardens of the public health?

The diseases most prevalent in this State are typhoid fever, spinal and scarlet fevers, diphtheria, measles and whooping-cough. They are caused by specific germs, and are all preventable. But to prevent them we must prevent the growth of the germs which cause them, or at least find a way to modify their malignancy.

If all governments were to combine to exterminate wheat, then it would be stamped out of existence. If wheat were the cause, say of typhoid fever, then wheat, and with it typhoid fever would be blotted out forever. If oats were the cause of diphtheria, this Legislature would see to it that oats would be stamped out. Now wheat and oats are not more real and specific than are disease fungi. Wheat and oats are visible to the naked eye, and possessed of definite forms and qualities. Wheat and disease germs may grow in the same dirt-pile if planted therein, but neither will grow unless planted. If the specific germ which produces typhoid fever were once exterminated (and it would have been exterminated long ago if it were as patent to the senses as wheat), then typhoid fever would disappear from the face of the earth, and all the filth of all the world would not raise it out of its eternal grave. The same is true of all germs, and true of the diseases produced by them.

I believe there is extant a law intended to exterminate the Canada thistle. That plant is the scourge of the field, its seeds are scattered far and wide, precisely as spores of disease fungi are scattered. This law, if executed, would stamp out the thistle. Such a law was necessary because individual effort was unavailing. The lazy farmer would grow enough seeds to sow a whole township. No one ever disputed the wisdom or the right of the State to pass laws for stamping out Canada thistles.

There are plants more noxious than thistles; plants that bring disease and death to thousands of people and animals in this State every year. These plants grow beside our homes, nay in the very chambers wherein our loved ones sleep in supposed security. Have you lost a child by any of the diseases I have named? If so, they came to their death by plants that grew around your home. Shall these plants be allowed to grow? Shall we continue to fold our arms and look on disease as a necessary evil, and on death as the work of Providence? The wail of bereavement is heard over the land; it is the wail of superstition, and nothing will hush that wail but the still small voice of reason. Let us get rid of the barbaric habit of calling all mystery Providence. The mystery which has been the dogma of one age has been the materialism of the age following. Mystery when solved is mystery no longer, and the mystery of diseases and their causes has



been removed from the cold ether of superstition to the solid ground of reason.

Ignorant people take a solemn delight in meeting their Deity in painful and melancholy circumstances. They find him in disaster and at funerals, never at the wedding feast, and when they do meet him it is in terror and sorrow. If there were no sickness, death and woe, there would be no Deity for such people to meet. How much sweeter it is to find our Deity in the healthful and joyous home! Blessed be the thought, we can get rid of much sickness and death, and yet have enough Providence to solace the heart!

It was long ago agreed that the State has the right to pass laws and appropriate money for the extermination of beasts and birds of prey. If it has the right to protect dumb animals from the depredation of wild beasts, why may it not protect them from the ravages of pneumonia and hoof and mouth disease? And if the State has the right to protect domestic animals from disease, why may it not protect human beings against pestilence and premature decay? A State board of health if made thoroughly efficient will do more for the farmer and stock-raiser than for any other class, for it will not only protect him and his family, but his poultry, his sheep, cattle and horses from disease.

The vastness of the subject drives me over more ground than I can cultivate. Suggestiveness rather than argumentiveness must characterize my effort. The question of hygiene and the questions growing out of it run so deeply into our lives, and are so intimately connected with human rights, that comprehensive argument in the time allowed me is impossible. I do wish to arouse your interest in this great and universal subject. I do wish to aid in bringing you to see and feel the importance of a State board of health, and your solemn, almost awful, responsibility in making that board a board not in name only, but thorough effectiveness.

It is not pleasant to assume to advise public officials concerning their duty, nor will I risk such assumption on this occasion. But as a citizen entitled to the privilege of petitioning his law-makers, I say to you that no bill on your calendar, important as that bill may be, equals in importance a bill for enlarging the powers of the State Board of Health. Either that board is necessary, or it is not; if unnecessary it should be abolished; but if necessary it should be made as efficient as power and money can make it. It should have full power and authority to do its work thoroughly. The character of the work will tolerate no half way measures. Diseases, their causes, prevention and treatment, demand the most skilful and constant work. Cutting down a few Canada thistles, or strangling a few wolves will not abate the scourges. The Board must be empowered to go to work all over the State, fully equipped and organized. And there is another thing to remember, the Board is on trial, and it will stand or fall by that trial.

State sanitation will stand or fall for years to come by that trial. If it is crippled by lack of funds it is impossible for it to make that impression of which it is capable, and the people, at least for years to come, will conclude that the old way of disease and premature death is just as good and cheaper. Do not, I beseech you, do not submit it to the humiliation of failure by paralyzing its hands with weak appropriations. I voice the sanitarians in saying to you with all the fervor of thorough conviction, that once let the Board of Health be given full and complete opportunity to manifest its usefulness, and it will be perpetuated as one of the most popular institutions of our State.

I am aware of the sincere desire of legislators to make records for economy in voting for the appropriation of public funds, and I am also painfully aware of how often this conscientious regard for duty is detrimental to the public service. Legislators are so often unjustly criticized that they become overcautious regarding their votes on the appropriation bills. How foolish! My impression, which grows stronger every day, is that the people, while they want honest government, don't want a cheap government, nor do they want half-starved institutions. I call your attention to the fact that it is rare to condemn legislators for the expenditure of moneys for the public benefit. If you look about you you will find that the men who are the most frequently returned to this legislative body are the men who vote for liberal salaries and liberal appropriations, while the sticklers for poverty-pay and paltry sums are generally left at home. Parsimony in voting for liberal appropriations for public benefactions never made a man a single vote, and liberality in supporting such measures never lost a man a vote. Who would not rather stand with those who in our late Congress voted millions for defense, than among those who doled out the economic cent? Economy may sometimes be demagogery instead of patriotism. Go count the short graves in this State, go stand by the tombs of the victims of fever at Plymouth and Shenandoah, and then talk of economy. Weigh out the tears, the agony, the stricken households, and then weigh out the gold that would prevent such terror, and wail over it like a miser.

Suppose that from some authentic source it was learned that an invading army was marching on our frontier, bent on overrunning our State with slaughter and pillage. All other business would give way, and by unanimous consent both branches of this Legislature would enact such measures as would effect the prompt repulsion of the invaders. From an authentic source you know that in the coming twelve months thousands of young people will die in this State, thousands of others will suffer with pain and grief, and thousands of dollars will be lost. And, knowing this, can you, will you, hesitate in taking such steps as will, in some degree, stop the deaths, palliate the suffering, and prevent the loss of money? The means are at your dis-

posals, and fortunately the very means required and that means you have in a thoroughly equipped State Board of Health.

Asiatic cholera, a name almost as terrible as death, has been hunted to its eastern cradle; from thence it starts out on its rounds of death, with caravans along the desert, on rivers in boats, over mountains and plain, in railway trains, across seas in ships, until its germs are planted in every land where commerce sets its foot. When its germs die out, as they do in America, it is known with the confidence that predicts effect from cause, that from its Oriental breeding ground it will again start on its rounds of havoc and despair. But it is also known that, as an effect the sequence of a known cause may be averted. Cholera may, by strict quarantine, be kept out of a country. If India were to send hither her hordes to invade our land we would guard our coasts with cannon and soldiers; shall we be less vigilant, less patriotic, when she threatens with her plague, a scourge far more dreadful than her armies?

This age calls for heroes; not heroes panoplied with sword and shield, and quickened by a fair lady's hand; not the crusader guarding the portals of an apochryphal tomb, but heroes armed with science, and waging war on error.

Men of culture are the knights of the new crusade. They seek no spoils, no selfish chivalry lures them on, no thirst for glory actuates them. Their struggle is for the universal brotherhood of man, their desire to leave the world better than they found it.

State hygiene is the inevitable outcome of a degree of civilization: that degree is now marked on the dial of progress. Legislators may be perverse and the people indifferent, but a tried and true board of health is as assured as that our nation is going forward, because the methods and sequences of evolution are as inexorable as fate, and all obstacles go down before its awful force. It is the doom of man in spite of himself to be ever growing wiser, and better, and grander, and more God-like. Let us anticipate, let us hasten our glorious doom, not wait to become automatic of involuntary destiny.

On the world's fierce field of battle,  
In the bivouac of life,  
Be not like dumb driven cattle,  
Be a hero in the strife.

## APPENDIX H.

---

### QUARANTINE, EPIDEMICS AND SPECIAL SOURCES OF DISEASES.

---

1. Report on Quarantine of the Delaware River.
    - (a) National Quarantine—Correspondence between the Secretary and Dr. Bailhache, of the U. S. Marine Hospital Service.
    - (b) Quarantine at Philadelphia—Letter to the Philadelphia Board of Health from the Secretary.
  2. Report of the Committee of the College of Physicians of Philadelphia, Appointed to Investigate the Efficiency of our Quarantine Arrangements for the Exclusion of Cholera and Other Epidemic Diseases.
  3. Inter-State Notification, Benjamin Lee, M. D.
  4. Glanders in Philadelphia, Benjamin Lee, M. D.
  5. Trichinosis in and near Erie, by Edward William Germer, M. D., President State Board of Health.
  6. Report of Special Committee on Sewerage for the East End, Pittsburgh.
  7. Report on Poisoning by Chrome Yellow in Buns in Philadelphia, by D. D. Stewart, M. D., of Philadelphia.
- 

#### 1. REPORT ON QUARANTINE OF THE DELAWARE RIVER.

- (a) National Quarantine correspondence between the Secretary and Dr. Preston H. Bailhache, Surgeon of the United State Marine Hospital Service.
  - (b) Pennsylvania Quarantine Letter to the Board of Health of Philadelphia.
- 

Philadelphia is very ill provided by either National or State quarantine systems for the reception of a cholera-laden vessel. This fact was brought out with great prominence by Dr. Rauch, the Secretary of the State Board of Health of Illinois, in his valuable report on the "Coast Defences of the United States against the Introduction of Contagious Diseases," the result of a tour of personal inspection from the mouth of the Rio Grande to the Gulf of St. Lawrence, made by direction of his State government. It needs no demonstration to show that the provision made seventy years ago for the little city of 88,000 inhabitants is as inadequate to the protection of the metropolis of nearly a million as are the swathing bands of an infant for the clothing of the full-grown man.

In order to determine exactly what degree of protection could be depended on from the National Government, the Secretary addressed a letter to Dr. Preston H. Bailhache, Surgeon of the United States



Marine Hospital Service, in charge of the United States Quarantine Station at Lewes, Delaware, which is appended, together with reply of Dr. Bailhache.

---

STATE BOARD OF HEALTH  
EXECUTIVE OFFICE,  
PHILADELPHIA, *June 1, 1887.*

Dr. PRESTON H. BAILHACHE,

*Surgeon United States Marine Hospital Service:*

DEAR DOCTOR: In view of the following facts, namely, that yellow fever of a malignant type has already obtained a foothold in one of our southern cities; that a vessel in which deaths from this disease have recently occurred, and which is presumably infected has just entered this port; that Asiatic cholera has been prevailing in South America for many months, and finally that the quarantine station of Philadelphia is so near the city and so limited in area as greatly to impair its value as a means of protection to this city and state, it becomes a matter of great interest to the State Board of Health to know just what precautions the National Government is taking to prevent the ingress of these pestilential diseases into the densely peopled regions accessible by way of the Delaware river. I should therefore esteem it a favor if you would, as early as possible, put me in possession of the desired information on this important subject.

Yours very respectfully,

BENJAMIN LEE,

*Secretary State Board of Health of Pennsylvania.*

---

UNITED STATES MARINE HOSPITAL SERVICE,  
MIDDLE ATLANTIC DISTRICT,  
PORT OF PHILADELPHIA, PA.,  
SURGEON'S OFFICE, *June 2, 1887.*

Dr. BENJAMIN LEE,

*Secretary State Board of Health of Pennsylvania:*

SIR: In answer to your letter of the first instant, inquiring what precaution the national government is taking to prevent the ingress of certain pestilential diseases into the densely populated regions accessible by way of the Delaware river, I invite your attention to the following law, approved April 29, 1878, and under which officers of the United States Marine Hospital Service and other officers or agents of the government are directed to proceed:

“AN ACT TO PREVENT THE INTRODUCTION OF CONTAGIOUS OR INFECTIOUS DISEASES INTO THE UNITED STATES.

*Be it enacted by the Senate and House of Representatives of the*

*United States of America in Congress assembled,* That no vessel or vehicle coming from any foreign port or country where any contagious or infectious disease may exist, and no vessel or vehicle conveying any person or persons, merchandise or animals, affected with any infectious or contagious disease, shall enter any port of the United States or pass the boundry line between the United States and any foreign country, contrary to the quarantine laws of any one of said United States, into or through the jurisdiction of which said vessel or vehicle may pass, or to which it is destined, except in the manner and subject to the regulations to be prescribed as hereinafter provided.

SECTION 2. That whatever any infections or contagious disease shall appear in any foreign port or country and whenever any vessel shall leave any infected foreign port, or, having on board goods or passengers coming from any place or district infected with cholera or yellow fever, shall leave any foreign port, bound for any port in the United States, the consular officer, or other representative of the United States at or nearest such foreign port shall immediately give information thereof to the Supervising Surgeon General of the marine hospital service, and shall report to him the name, the date of departure, and the port of destination of such vessel, and shall also make the same report to the health officer of the port of destination in the United States, and the consular officers of the United States shall make weekly reports to him of the sanitary condition of the ports at which they are respectively stationed, and the said Surgeon General of the marine hospital service shall, under the direction of the Secretary of the Treasury, be charged with the execution of the provisions of this act, and shall frame all needful rules and regulations for that purpose, which rules and regulations shall be subject to the approval of the President, but such rules and regulations shall not conflict with or impair any sanitary or quarantine laws or regulations of any State or municipal authorities now existing, or which may hereafter be enacted.

SECTION 3. That it shall be the duty of the medical officers of the marine hospital service, and of customs officers to aid in the enforcement of the national quarantine rules and regulations established under the preceding section, but no additional compensation shall be allowed said officers by reason of such service as they may be required to perform under this act, except actual and necessary traveling expenses.

SECTION 4. That the Surgeon General of the marine hospital service shall, upon receipt of information of the departure of any vessel, goods, or passengers from infected places to any port in the United States, immediately notify the proper State or municipal and United States officer or officers at the threatened port of destination of the vessel, and shall prepare and transmit to the medical officers of the marine hospital service, to collectors of customs, and to the State and

municipal health authorities in the United States, weekly abstracts of the consular sanitary reports, and other pertinent information received by him.

SECTION 5. That wherever, at any port of the United States, any State or municipal quarantine system may now, or may hereafter exist, the officers or agents of such system shall, upon the application of the respective State or municipal authorities, be authorized and empowered to act as officers or agents of the national quarantine system, and shall be clothed with all the powers of the United States officers for quarantine purposes, but shall receive no pay or emoluments from the United States. At all other ports where, in the opinion of the Secretary of the Treasury, it shall be deemed necessary to establish quarantine, the medical officers or other agents of the marine hospital service shall perform such duties in the enforcement of the quarantine rules and regulations as may be assigned them by the Surgeon General of that service under this act: *Provided*, That there shall be no interference in any manner with any quarantine laws or regulations as they now exist or may hereafter be adopted under State laws.

SECTION 6. That all acts or parts of acts inconsistent with this act be, and the same are hereby, repealed."

Approved, April 29, 1878.

The following regulations for the government of national quarantines and approved by the President in accordance with the above law (Revised Regulations U. S. Marine Hospital Service, 1885), are now in force :

"PAR. 322. At ports where quarantine may be established by the Secretary of the Treasury, every vessel, before being permitted to enter, shall present to the collector of customs satisfactory evidence either that said vessel had not, at any time during a period of thirty days immediately preceding its arrival, touched at or communicated with any foreign port where cholera, yellow fever or small-pox was known to exist in an epidemic form; that there had not been at any time during that period any case of contagious disease on board; and that said vessel does not convey any person or persons, merchandise or animals affected with any infectious or contagious disease, or that the said vessel has been thoroughly cleaned and disinfected by the quarantine officer, and is free from infection at the time of entry. The certificate to that effect, of the medical officer of the marine hospital service, or other agent of the Treasury Department designated by the Secretary of the Treasury to act as quarantine officers of the United States at the port, shall be accepted by the collector of customs as satisfactory evidence, and the medical officer or agent referred to shall, before granting such certificate, satisfy himself that the matters and things stated therein are true.



PAR. 323. Vessels coming from a foreign port or country where cholera, yellow fever or small-pox is known to have existed in an epidemic form within thirty days preceding their arrival, and vessels or vehicles conveying any person or persons, merchandise or animals affected with any contagious disease, or having had on board at any time during the thirty days preceding their arrival any case of contagious disease, shall not enter any port of the United States until such disinfection or other precautionary measures shall have been performed as prescribed by these regulations, and the certificates of the medical officer of the marine hospital service, or other designated agent of the Treasury-Department, shall, in such cases, as in the case referred to in the preceding paragraph, be accepted by the collector of customs as satisfactory evidence of compliance with said regulations.

PAR. 324. For purposes of necessary disinfection of a vessel and its cargo, and of the clothing and baggage of persons on board, the said vessel shall be required to repair to and cast anchor at such place as may be designated by the Secretary of the Treasury, at each port respectively, to be known as the United States Quarantine Station.

PAR. 325. The disinfection and other precautionary measures referred to in paragraph 323, shall be carried out under the direction and supervision of the United States quarantine officers at each port respectively, and shall consist of, first, the isolation and treatment of the sick; second, the disinfection of all clothing and baggage liable to be infected; third, the removal of the cargo from the vessel to open lighters, and its thorough disinfection by chemical agents, by exposure to free currents of air, or by burning, as the case may require, and, fourth, the cleansing and fumigation of the vessel, or such other methods of disinfection as may, from time to time, be adopted by the Department."

In accordance with the above law, and of appropriation acts authorizing the President to maintain quarantine at points of danger, national quarantine stations are now in operation at Ship Island, in the Gulf of Mexico, Sapelo Sound, on the coast of Georgia, Fisherman's Island at the Capes of the Chesapeake, and at the Delaware Breakwater, (the latter station being so far north, was not opened until the first of June instant).

It will be seen by the above law and regulations that ample provisions are made for the protection of the country against the importation of contagious and infectious diseases, but I regret to say that, notwithstanding the earnest and persistent efforts which have been made from year to year by officers of the national government, and particularly by the Surgeon General of this service, Congress, in its wisdom, has seen fit to appropriate no money for the proper *equipment of the several national quarantines*, and as a consequence, that



at the Delaware Breakwater is little better than a boarding station, without docks, warehouse, lighters, machinery for unloading vessels, barracks or other necessary and convenient arrangements for its proper and efficient management. There are, however, a hospital building, a steam tug for boarding purposes, and two medical officers on duty at this station, whose duty it is to board every vessel coming from an infected or suspected foreign port, remove the sick to hospital, and disinfect the vessel and cargo; this, together with the "notification" required from consular officers when a foreign port is infected, or a vessel is bound to the United States from such infected port, comprises the sum total of the protection at present afforded by the National Government, though a patrol of the coast of the United States by revenue cutters will doubtless be added (as has been done during the past few years) to assist in the prevention of the introduction of contagious and infectious diseases, and special orders and regulations may be issued from time to time by the Secretary of the Treasury or the Surgeon General to meet emergencies as they arise, payable out of what is known as the "epidemic fund," and without which the existing national quarantines would be without funds.

It would be a very simple matter to make a thoroughly efficient national quarantine at the Breakwater, as the Government already owns sufficient land for the erection of all the buildings required, and has a valuable iron pier lying idle; in fact, there appears to be nothing to prevent its complete equipment except the lack of an appropriation of the necessary money by Congress.

If at any time a State or municipality is unable to cope with an epidemic, or desires the National Government to aid in preventing its occurrence, an application made by the Governor of the State, and addressed to the President of the United States (or to the Secretary of the Treasury), stating the circumstances and asking for assistance, such application will receive prompt attention, and aid will be furnished by the Government.

Very respectfully,

PRESTON H. BAILHACHE,  
*Surgeon, U. S. M. H. S.*

Availing himself of the provision thus made by the United States Government for the protection of the Delaware river, the health officer of Philadelphia issued the following proclamation, under date of June 22, 1887:

"By resolution of the board of health of the city of Philadelphia, and by authority of law, masters and pilots will take notice: That all incoming vessels bound for the port of Philadelphia from ports infected, or which may hereafter become infected, including at present Key West, and also all vessels which have or have had sickness on board since leaving the port of departure, shall be required to report at

the U. S. Quarantine Station at the Delaware Breakwater, and that all pilots in charge of such vessels be, and are hereby, required to obey this order, under penalty of law, before bringing such vessels into the Philadelphia Quarantine Station on the Delaware river. Vessels from non-infected ports, and having no sickness on board, will hoist their private signal under the national flag before passing the U. S. Quarantine Station."

A similar proclamation was issued by the health officer at Camden, N. J.

---

(b.) Pennsylvania Quarantine—Letter to the Philadelphia Board of Health.

COMMONWEALTH OF PENNSYLVANIA,  
STATE BOARD OF HEALTH,  
EXECUTIVE OFFICE, 1532 PINE STREET,  
PHILADELPHIA, *October 21, 1887.*

*To the President and Members of the Board of Health of Philadelphia:*

GENTLEMEN: The recent action of your honorable board in sending a committee to investigate the manner in which the quarantine of the cholera patients and suspects now detained in New York harbor is being administered cannot be too highly commended. In the presence of so terrible and so insidious a foe, too great vigilance cannot be exercised. Permit me, however, at the risk of seeming pertinacity, again to call your attention to the entire inadequacy of the provisions made by the State authorities for coping with a similar emergency in our own port.

Your committee may have found laxity in the enforcement of quarantine regulations in New York harbor. It is sincerely to be hoped that their visit will have had the effect of inducing greater efficiency in this respect. But they could not have failed to be impressed with the fact that, in everything which constitutes a possibility for maintaining an efficient quarantine, the New York station is immeasurably superior to our own at the "Lazaretto." Its isolated position, separated by a broad expanse of salt water from the neighboring shores, its extent of area, its hospital and barrack accommodations and its machinery for disinfection, all belong to the sanitary regime of to-day; while ours are those of nearly a century ago, when the present metropolis of Pennsylvania was but a country town. What might have been the consequence to her teeming population had the ship "Alesia" ascended the Delaware river to Chester instead of anchoring off Sandy Hook, is not pleasant to contemplate.

The persistence of the cholera pest along the shores of the Mediterranean for so long a period, now measured by years, and its increasing malignity at certain points at the present time, make this a most

urgent question, only emphasized by the actual transportation of the disease across the Atlantic to a neighboring port. Our turn may come next, and very soon. Cholera is no respecter of seasons and we cannot rely upon the frost to confer immunity from its invasion as we may in the case of yellow fever. Cholera at Tinicum would mean cholera in the neighboring country and cholera in Philadelphia, just as yellow fever at Tinicum meant yellow fever in the neighboring country and yellow fever in Philadelphia, on the occasion of its last visitation.

It is wiser to admit this fact at once and take the necessary steps to keep it at a safe distance, rather than to wait until it has gained a foothold, and then attempt the desperate work of its expulsion. To this end concert of action on the part of the three States bordering on the Delaware river and the general government, will be essential. In any such movement you can rely upon the cordial coöperation and support of this Board. The immense interests at stake, as regards both life and property in this city, however, would seem to make it expedient and appropriate that her authorities should take the initiative.

Earnestly bespeaking for this important subject the attentive consideration of your honorable board, I am,

Yours respectfully,

BENJ. LEE, *Secretary.*

---

## II. REPORT OF THE COMMITTEE OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA, APPOINTED TO INVESTIGATE THE EFFICIENCY OF OUR QUARANTINE ARRANGEMENTS FOR THE EXCLUSION OF CHOLERA AND OTHER EPIDEMIC DISEASES.

---

*To the President and Fellows of the College :* Your committee appointed at the meeting of the College held October 5, 1887, to consider the present danger of the importation of cholera into this country, and to secure concentrated action among the medical societies of the land in urging upon the State and National authorities the adoption of a uniform and efficient system of quarantine for all exposed ports, respectfully reports as follows :

The acceptance of the germ theory of infectious and contagious diseases, or the probability at least of its truth, places in a new light the management of quarantine for detention and disinfection of vessels and their passengers. Anterior to the promulgation of this doctrine the etiology of these diseases was so obscure, that it is not a matter of surprise that such diverse views existed on the subject of quarantine ; as shown by its absolute abandonment in Great Britain, for instance,



and, on the other hand, by its enforcement with unreasonable severity in the southern ports of Europe. There was no clear idea of that which was to be guarded against, and, therefore, no measures generally and unreservedly accepted as a means to the desired end.

In view of the nature of the work with which your committee was charged, we found ourselves confronted with two questions of urgent importance :

I. What are the requirements of an efficient maritime quarantine against cholera ?

II. To what extent do the existing arrangements at the ports of New York, Philadelphia and Baltimore fulfil these requirements? [We speak of these ports only, because circumstances did not permit more extended personal investigations, and there is no reason to believe, from the published official descriptions, that the conditions of the other ports of entry upon our Atlantic and Gulf coasts are in any respect superior.]

I. In reply to the first of these questions, we cannot do better than quote at length from the editorial pages of a recent number of *The Medical News* \*

"Measures of prevention to give the greatest possible guarantee of success in extinguishing an incipient epidemic of cholera, should, in the first place, be based upon the most exact knowledge we possess of the cause, mode of attack, and manner of spread of the disease; and, in the second place, these measures should be intelligently, thoroughly and rigidly enforced.

"What are the considerations involved in the first category? Probably nine-tenths of intelligent and experienced physicians all over the world, even including those of India, have for years admitted that there is most convincing proof that the active cause of the disease is a specific, material, living entity, of extremely minute size, endowed with the power of self-propagation, and of exceedingly rapid multiplication in enormous numbers; that among animals it naturally attacks man alone, assailing him only by way of the intestinal canal; that the evacuations from the bowels contain the active cause of the disease, and that when this agent in any manner—as through drinking water, milk, food, or the handling or washing of contaminated personal effects, etc.,—reaches the intestines of another susceptible person, the disease may be thereby transmitted from the sick to the healthy; that the active agent exists in the dejecta of the lightest and most imperceptible no less than the severest and most deadly forms of the disease, and is known to be transportable from place to place through the movements of man and his personal effects.

"Proceeding from this basis, logical deduction and common experi-

---

\*October 15, 1887, pages 455, 456, 457.



ence alike demonstrate the absolute necessity and efficiency of such measures of prevention as the following :

"*a.* Speedy recognition and isolation of the sick ; their proper treatment ; absolute and rapid destruction of the infectious agent of the disease, not only in the dejecta and vomit, but also in clothing, bedding, and in or upon whatever else it finds a resting-place.

"*b.* The convalescents should remain isolated from the healthy so long as their stools possibly contain any of the infecting agent ; before mingling again with the well they should be immersed in a disinfecting bath, and afterward be clothed from the skin outward with perfectly clean vestments, which cannot possibly contain any of the infectious material.

"*c.* The dead should be well wrapped in cloth thoroughly saturated in a solution of corrosive sublimate, 1 to 500, and without delay, cortege, or lengthy ceremonial, buried near the place of death in a deep grave, remote as possible from water which may, under any circumstances, be used for drinking, washing, culinary, or other domestic purposes. (Cremation, of course, is by far the safest way of disposing of cholera cadavers.)

"*d.* Those handling the sick or the dead should be careful to disinfect their hands and soiled clothing at once, and especially before touching articles of food, drinking, or culinary vessels.

"*e.* In the case of marine quarantine, the well should be disembarked and placed under observation in quarters spacious enough to avoid crowding, and so well appointed and furnished that none will suffer real hardships.

"*f.* Once having reached the station, those under observation should be separated in groups of not more than twelve to twenty-four, and the various groups should, under no pretext, intermingle ; the quarters for each group should afford stationary lavatories and water closets in perfect working condition, adequate to the needs of the individuals constituting the group, and supplied with proper means of disinfection ; there should be a bed raised above the floor, proper coverings, and a chair for each member of the group, each person being required to use only his own bed ; there should be a common table of sufficient size to seat around it all the members of the group, who should be served their meals from a central kitchen, and with table furniture belonging to the station and cleared by the common kitchen scullions.

"*g.* Drinking-water, free from possible contamination and of the best quality, should be distributed in the quarters of each group, as it is needed, and in such a manner that it is received in drinking-cups only ; there should be no water-buckets or other large vessels in which handkerchiefs, small vestments, children's diapers, etc., can be washed by the members of any group.

"*h.* Immediately after being separated into groups in their respec-

tive quarters, every person under observation should be obliged to strip and get into a bath (a disinfecting one is preferable), and afterward be clothed with fresh, clean vestments from the skin outward. Every article of clothing previously worn should be taken away and properly disinfected.

"i. Then all of the personal effects should be at once removed to a separate building, washed—if possible—and thoroughly disinfected, or, if necessary, destroyed. After disinfection they should be temporarily returned to the members of groups, when occasion requires a further change of clothing.

"k. Under no circumstances whatever should washing of clothing by those under observation be permitted. All used clothing should be first thoroughly disinfected (by boiling, when possible), and then should be cleansed, the disinfection and washing being done by a sufficiently trained and absolutely reliable corps of employés supplied with adequate appliances.

"l. All of those under observation should be mustered in their own quarters and be subjected to a close medical inspection, *while on their feet*, at least twice every day, in order to discover and isolate as soon as possible new cases which may develop; and, of course, the clothing and bedding of these new cases should be treated without delay in the manner already mentioned. In the meantime a watch should be set over the water-closets, for the purpose of discovering cases of diarrhoea, and when discovered, such cases should be temporarily separated from the rest; they should receive judicious medical attention at once, and precautions should be taken as if they were undoubted, but mild, cases of cholera.

"m. The quarters should be kept thoroughly clean, and every surface upon which infectious material could possibly be deposited, including the floors, should be washed with a strong disinfectant twice daily, and oftener when necessary: evacuations from the bowels should be passed into a strong disinfectant; the hopper of the closet should be then flushed, and finally drenched with a quantity of the same disinfectant.

"n. For the proper attention to the sick, there should be two or more competent and experienced physicians, assisted by a sufficient corps of intelligent and efficient nurses, with hours of duty so arranged that a physician with a sufficient number of nurses be in constant attendance in the wards of the hospital.

"o. For the prompt recognition and separation of new cases, their temporary medical attention, the proper treatment of discovered cases of diarrhoea or cholera, and of other maladies, and the immediate correction of every insanitary practice or condition by constant, vigilant, and intelligent supervision, there should be at least two or more competent and experienced physicians, with hours of service so arranged that a physician is on duty night and day among those under

observation; and he should have subject to his orders, at any and every moment, a sufficient and efficient corps of nurses and laborers to carry out properly and promptly his directions.

"*p.* In order to prevent the intermingling of the various groups, to enforce obedience and order, and to make it absolutely impossible for the quarantined and their personal effects to have any communication with the interior, a well organized and sufficiently large police corps should patrol the borders of the stations and the buildings day and night.

"*q.* Any group among whom there has developed no new cases of cholera, or of choleraic diarrhœa, during the preceding eight or ten days, may be regarded as harmless, and allowed to leave quarantine after each one is finally immersed in a disinfecting bath, and reclathed with clean garments from the skin outward; the garments removed being destroyed, or thoroughly disinfected and cleansed as above indicated.

"As yet no reference has been made to the crew, ship, and cargo. What has been said of the treatment of those under observation, applies to every one of the ship's inhabitants. The observation, isolation, and cleansing of the crew and their effects, could safely be performed aboard ship if necessary. The ship should be thoroughly cleansed and disinfected, particular attention being given to the quarters of the emigrants and crew."

II. The second question is to what extent do the existing arrangements at the ports of New York, Philadelphia and Baltimore fulfil these requirements?

Your committee began its work by personally inspecting the quarantine stations at New York, Philadelphia and Baltimore, arrangements having been previously made with the respective officials.

#### Quarantine Station at New York.

The quarantine establishment, visited October 8, consists of a boarding station, which is the residence of the health officer, situated on Staten Island, four miles below the city, just within the narrows at the entrance of the harbor, and in connection with New York city by telegraph and telephone; of an island of observation known as Hoffman Island, and of another, Swinburne Island, on which latter is erected a large hospital building. These islands are artificial, being made of foundations of rock, covered with sand; are situated in the lower bay about five miles below the boarding station, and two miles from the shore.

Hoffman Island is probably four acres in area, and rises some eight feet above the level of the sea. There are upon it two large brick buildings of two stories each, and a smaller building, the latter provided with cooking and heating apparatus for the larger buildings. One of the large buildings is furnished with water-closets



in each story, and a lavatory in the upper. The rooms of this building are without furniture or bedsteads.

The water supply of this island is as follows: There is a cistern lined with brick, sunken beneath the surface of the sand near each of the large buildings, to collect rain water from the roof, but at the time of our visit the sunken cisterns contained Croton water brought from the city of New York. The openings of these cisterns are provided with caps. In addition to these, there are two iron tanks of considerable dimensions in the large buildings in which the water-closets are located, and they are elevated some distance above the head. One of these tanks is intended for fresh water, to be used for bathing; the other for salt water to be used exclusively for flushing the water-closets. We found that owing to imperfection in the apparatus, several of the water-closets could not be flushed. The iron soil pipes into which these closets empty lead into the sea, each pipe having, as we were informed, a number of right angles in its course. In the corner of one of the rooms containing the water-closets there was a barrel nearly full of a solution of corrosive sublimate, one part to five hundred. This was employed for the purpose of drenching the pans of the closets after they have been used and flushed. We found the seats and the floors of these water-closets extremely wet.

The lavatory was a small room opposite the water-closets of the second story, containing two metallic bath-tubs, and a few stationary washstands, supplied with fresh water from the above mentioned tank. We were informed that the bath-tubs had not been used during the present emergency. Immediately opposite the water-closets on the lower floor, and beneath the lavatory, was a small room devoted to the uses of a temporary hospital. This room contained four bedsteads with the corresponding bedding, but no other furniture, and was occupied by three recently developed cases of cholera.

In the other large building there were constructed in corners on the first floor two disinfecting rooms, fifteen feet by twenty, each having one or more windows communicating with the external air. These rooms appeared to be otherwise air-tight. The remainder of the first floor constituted a large wareroom for the storage of baggage. The disinfecting apparatus was supplemented by a large wooden vat, located in the boiler-house, for the purpose of subjecting clothing to the action of steam, but it was not placed in position until after the first week of detention.

This island was occupied by upward of five hundred men, women, and children, passengers from the cholera-infected steamship "Alesia," who at that date had been upon the island sixteen days. They roamed at will over the island and through the rooms of the large buildings, except the one in the second story of the building in which the disinfection had taken place, which was occupied by a number of people of the better class, who seemed to have exclusive use of it.



These two buildings were supplied with a limited number of mattresses and blankets, which were collected together in piles. We learned that this bedding had been supplied by the steamship company, but that none of it arrived until five days subsequent to the debarkation of the passengers upon the island. The immigrants were permitted access to a portion of their personal effects after disinfection. Many of the people were engaged in washing their clothing. This washing was done in vessels of various kinds and in the immediate vicinity of the mouths of the sunken cisterns. At the time of our visit the latter were uncovered, and the ground around them was saturated with the water which had been used in washing, and a number of people were scouring with this wet sand, the pans and tins in which they received their food and drinking water. They drew the water from the cisterns by pails and vessels of various kinds. According to information received, these cisterns had not been cleaned out in a number of years.

By reason of want of facilities for perfect flushing of the water-closets, due to a defect in the pumps, a supplementary latrine had been extemporized by digging a long deep trench in the sand not more than fifty feet distant from one of the large buildings, and about thirty feet from one of the cisterns. Notwithstanding these arrangements, it was impossible on account of the inadequate police, to prevent the people from defecating in any convenient spot, and although they had been enjoined by the health officer against the use of the water in the sunken cisterns for drinking purposes, there were no means of enforcing this order, for access to the cisterns could indeed be had at all times. Drinking water brought from New York city was distributed upon application at a tank in one of the buildings. Food supplied by the agents of the steamship company, and, as we were informed, brought to the island in their vessels, was prepared in the kitchen and distributed sufficient quantities. This food, which was well cooked, consisted of bread, soup, macaroni, potatoes, pork, and beans. The dishes were generally used in common by families or small groups, and the absence of knives and forks was noteworthy.

The police force of the island consisted of one watchman assisted by an improvised corps of twelve of the more intelligent of the immigrants, each of whom received for his services, one dollar per diem. In addition to the police force, there were three or four men in the employ of the health officer, whose duties were attention to the disinfection of baggage, to the water-closets, to the cleanliness of the buildings, to the detection of new cases of cholera and their removal to the temporary hospital, and to other similar matters. Besides these there were a cook furnished by the agents of the steamship company, and an engineer.

There was no resident medical officer upon the island. The health officer, who is a physician, visited the island once, and sometimes

twice daily, for the purpose of inspecting the immigrants, and for the general conduct and direction of affairs. At these times the new cases which had developed in the intervals of his visits, were transferred to the hospital on Swinburne Island.

At the time of the arrival of the "Alesia," there were on board eight cases of cholera, all of which were at once transferred to the hospital on Swinburne Island. The rest of the steerage passengers, apparently free from the disease, were, with their baggage, landed on Hoffman Island, the cabin passengers and crew remaining on board the vessel. The clothing of the cholera patients was taken back from the hospital on Swinburne Island to Hoffman Island to be disinfected, and the same course was afterward pursued with the clothing of those who, having been taken ill with the cholera, were from time to time removed to Swinburne Island. Up to the time of our visit, sixteen days after the arrival of the ship, twenty seven new cases of cholera had developed, of which three were discovered on the day of our visit. Of the eight sick at the time of the removal of the passengers from the steamer, five died, and of the twenty-seven cases attacked upon the island, nine proved fatal, making a total mortality of fourteen. As soon as the immigrants were landed from the ship, their baggage was taken from them and stored on the lower floor of the large building in which disinfection was carried out. The process of disinfection was as follows: The articles were separated, shaken out and hung up in the disinfecting rooms, three pounds of sulphur being burned for every 1000 cubic feet of space. The disinfection of the baggage for the first time occupied five or six days, during which period the immigrants were denied access to their effects and continued to wear the clothing which they had on when they left the ship. The steam disinfecting apparatus before referred to, was not placed in position until toward the end of the first week. After that the baggage was for a second time disinfected, a double process being employed: the clothing being first subjected to the action of steam and then to the fumes of sulphur. After the first disinfection, those whose clothing was accessible, were permitted to change their garments, and were thereafter assigned to sleep in a separate room, but were not prevented from mingling with the other immigrants during the day. No effort was made otherwise to separate the passengers into isolated groups, nor indeed was there, in our opinion, any adequate provisions to prevent occasional communication by means of small boats, especially at night, between Hoffman Island and the shore. We were informed that boats had not infrequently been seen hovering around the island, and had occasionally been warned off.

Swinburne Island, on which the hospital is located, is somewhat larger than Hoffman Island. The hospital, consisting of several one-story wooden pavilions, and the grounds are in excellent condition. The water supply is contained in sunken cisterns for the storage of

rain water, placed in the open spaces between the pavilions. The mouths of these cisterns are on a level with the ground, and are covered with stone slabs. There is an adequate heating and cooking apparatus, and there are also a small disinfecting room and an apothecary shop.

The *personnel* of this island consists of a resident superintendent, who is not a physician, and, at the time of our visit, two male nurses, one of whom at different times had attended medical lectures. There was also an intelligent Italian gentleman, without medical or nurse training, who had volunteered his services in the care of the sick. The wards of the hospital were supplied with a sufficient number of bedsteads and necessary bedding in good condition, and contained nine patients, including the three discovered on the day of our visit, and who had been brought over with us from Hoffman Island.

The dead were buried in shallow graves on a sandspit at the extreme end of Staten Island, known as Seguin's Point.

#### Quarantine Station at Philadelphia.

We visited this station, known as the Lazaretto, October 13, and made the following observations: It is situated on the right bank of the Delaware river, eleven miles from the city, on Little Timicum island a large tract devoted to farming, which is separated from the mainland by Darby creek. It comprises twelve acres belonging to the city and six acres the property of the United States Government. There is a large main building of brick, substantially constructed at the beginning of this century. The central portion of this building is occupied by the steward, and contains offices of administration. There are two wings, two stories and an attic in height, one of which is used by the crew of the boarding steam-vessel, and the other is arranged for hospital purposes, with a capacity of forty beds; but it is at present unfurnished.

Some distance in the rear of this building is a two-story brick hospital, with a capacity of thirty beds, and containing a dispensary. The dead-house is at the end of the building, but does not communicate with it. Near by is a wooden building ten feet by twelve feet, with a double wall and without windows, used for disinfecting by sulphur. There are at the station thirty-eight bedsteads, mattresses, and corresponding furnishing. Two small brick buildings near the river front accommodate the Lazaretto physician and quarantine master respectively.

The water-supply is obtained from old-fashioned wells with hand-pumps. There are no large reservoirs for water, or large steam boilers, or bath-tubs. There are several privies, but no water-closets. The station is connected with the city by telegraph. The Lazaretto physician, the quarantine master, the male nurse, the telegraph operator, the crew of the boarding vessel, and the other attendants reside



at the station during the quarantine season, which, as a rule lasts from the first of June until the first of October. The steward resides at the station during the whole year. When the quarantine station is closed, the port-physican examines the vessels in the stream opposite the city.

On the government property is a large stone warehouse, about 120 feet by 40 feet, two stories and an attic in height, and also two brick buildings, in one of which resides the government inspector. There are no means of heating this warehouse, and its numerous windows are without sashes.

#### Quarantine Station at Baltimore.

This station, which is a new one, having been occupied only two years, is situated seven miles below Baltimore on the right bank of Patapsco river, upon a point of the mainland jutting out into the stream and known as Little Hawkin's Point. The territory embraced in the quarantine station consists of fifteen acres, upon which are erected three frame dwellings, namely, a hospital of two stories with accommodations for about sixty patients, a dwelling for the medical officers, and another for the use of the crew of the boarding tug. The water is supplied by a spring about two hundred yards distant, being lifted by a windmill to a tank sufficiently high to permit of its distribution to the second story of the buildings.

The station has in store seventy-five tents to be used in emergency. No fence or wall separates the grounds from the adjacent land. At the time of our visit the hospital was unoccupied and locked up, so that we were unable to inspect the interior, but were informed that it was supplied with iron bedsteads and the necessary bedding. There is no special disinfecting apparatus at the station, nor any adequate means of disinfection; but there was pointed out to us a wing of the hospital designed for a kitchen, consisting of a small room with two windows and a door communicating with the building, in which, it was said, fumigation with sulphur could be practiced. The water in front of the station is shoal, large vessels being obliged to anchor within two hundred yards of the main channel. The quarantine officer and his assistant, both of whom are physicians, besides the crew of the tug, a male nurse, and a gardener, reside at the station during the quarantine season, which usually ends October 31st.

We also visited the place four miles nearer Baltimore, which was formerly used as the quarantine station. It is now unoccupied and fallen into decay. It consists of a tract of land about four hundred acres in extent and several dilapidated buildings, including eight one story wooden barracks. This establishment is occasionally used as a pest-house for small-pox cases from the city of Baltimore. It is now unfurnished and untenable.



## Conclusions.

It is evident that the quarantine establishments at Philadelphia and at Baltimore fail in the most essential requisites of the necessary number of properly equipped buildings for the isolation and observation of a large number of immigrants.

In regard to the station at New York, the buildings are sufficiently large and numerous, and have adequate arrangements for heating and cooking, but they are not divided into a sufficient number of small compartments to permit the strict isolation of the immigrants into small groups. The water-closets were not sufficiently numerous, nor were they all in good working order; neither were there enough bath-tubs. The pumps, by which the supply of sea water used for flushing these closets was obtained, were out of order, and a period of two weeks elapsed before the necessary repairs could be made. It is also worthy of note that the soil-pipes only reached the sea by the already mentioned series of angular turns.

The necessary use of the supplementary latrine we have described; objectionable in construction and situation, as it was, it constituted a menace to the safety of the immigrants detained upon the island, among whom new cases were from day to day occurring. The dangers of infection were still further increased by the fact that the immigrants could not, under the existing state of affairs, be prevented from defecating at any convenient spot.

There was no provision for the general washing of clothing by the authorities. As a result of this defect, there arose the exceedingly dangerous practice of the washing of clothes at the cisterns by the immigrants themselves. The existence of underground cisterns at a station of this kind is, in itself, highly objectionable. All water reservoirs should be inaccessible to the immigrants, and should be placed above ground in such a manner as to avoid all danger of accidental contamination.

The disinfecting chambers were sufficiently capacious, but the existence of windows in them was a fault of construction which would seem decidedly to impair their efficiency.

The lack of bedsteads, chairs, tables, and proper eating utensils, added to the hardships of the immigrants and to the dangers of infection.

The location of the room used as a temporary hospital, namely, directly opposite one of the water-closets, and the fact that patients known to have cholera and placed in this hospital, were allowed to use the water-closets in common with others, constituted a serious danger, and suggested the advisability of the use, for this purpose, of a separate building provided with its own water-closets and system of drainage.

Your committee feels called upon to comment upon the absence of

a resident medical officer at this station, and of an adequate force of watchmen, patrolmen and attendants. As a consequence of these defects of organization, the well-recognized requirements of a quarantine of observation as pointed out in paragraphs *o*, *p*, and *q* above, could not possibly be fulfilled. The possibility of occasional clandestine communication between the detained immigrants and their friends by means of small boats, constituted a danger to the country, difficult to estimate, and against which, so far as we could learn, there were no certain precautions.

There was, in fact, no official supervision of the personal hygiene of the detained, no compulsory bathing or washing. The absence of towels in the lavatory and of paper in the water-closets, was notable. Soiled hands and filthy clothing indicated habits which favored the transmission of the cholera infection from person to person, particularly as the custom of several individuals eating from a common dish, without knives or forks, was frequently observed.

One of the results of the absence of bedsteads was the promiscuous heaping together of the mattresses and blankets during the day, in order to make room for washing the floors with disinfectant solutions; the bedding was thus doubtless used on successive nights by different persons, constituting a very probable means of transmission of the disease if they should become soiled by dejecta or vomit. Furthermore as there was insufficient number of mattresses, two or more persons must have, in many instances, occupied one bed.

The hospital on Swinburne Island appeared to be excellently adapted to its purposes. The use of underground cisterns for the storage of water is, however, here also objectionable. As there were no less than nine cases of cholera in the wards, at the time of our visit, some of whom were desperately ill, your committee noted with surprise the absence of a resident physician, a fact that demands no further comment. And it was a reversal of modern ideas to find male nurses in charge, of female patients.

Your committee was at a loss to understand why the clothing of patients was sent back to Hoffman Island to be disinfected, as there is a disinfecting chamber in connection with the hospital. We were informed that the convalescents were, as soon as they were strong enough to be about, returned to Hoffman Island, without having been previously bathed and disinfected.

The recent arrival of the "Britannia," another steamship of the same line, with a large number of Italian immigrants from the infected port of Naples, among whom, if press reports are true, cholera evidently made its appearance during the voyage, its existence being either not recognized by the ship's surgeon, or else concealed by the deliberate falsification of the ship's sanitary record, has already, in the opinion of your committee, seriously increased the present danger of the ultimate introduction of cholera into the country through the

port of New York. It would seem that if the importation of immigrants directly from European port notoriously infected, is not to be temporarily prohibited as a necessity of public safety, or if the treatment of these immigrants, after their arrival at the New York quarantine station, is not to be immediately and radically improved, our protection against an epidemic at the present time must rest mainly upon the fortunate circumstance of the near approach of a season in which the disease does not usually spread. The continuance of cholera among the passengers of the "Alesia" so long after their removal to the station of observation, in itself demonstrates the inefficiency of the measures which have been adopted and enforced for its extinguishment there. Although we have not yet heard of the development of the disease anywhere on the main-land, nevertheless, in view of the almost uncontrollable tendency of cholera to spread at times, and of the original insufficiency and the present faulty constitution of the police force on Hoffman Island, we feel impelled to believe that the immunity up to the present time has been owing to singular good fortune, rather than to good management.

Moreover, in our opinion, it is necessary that the personal effects of Italian immigrants directly from the infected ports shall be, in all cases, thoroughly disinfected before they are permitted to land, whether the word cholera makes its appearance in the ship's log and sanitary record of the voyage or not. It is a well-known fact, established by numerous instances, that even when immigrants from an infected locality have themselves remained free from disease during the voyage, their baggage, packed before starting, has been the conveyer of the infection to their point of destination. The passengers of the steamship "Independente," most of whom were shipped directly from the infected port of Palermo, although it is stated that during the voyage no case of cholera developed, come under this category. The recent action of the Surgeon General of the marine hospital service, and the alarm of the health authorities of the cities of Chicago and St. Louis, seem, therefore, not without some just foundation.

It should be stated, however, that we have learned through the medium of the public press that an attempt has been made to remedy a few of the defects above pointed out. What has been done would appear, however, to be in the direction of improvement in minor matters, rather than in such radical changes as would insure the country against the dangers to which it is exposed.

In the conduct of its personal investigations, and in the preparation of its report, your committee has dealt solely with patent facts and plain truths which would meet the eyes and occur to the minds of any unprejudiced and competent men charged with a similar duty. To lay the simple statement of these facts before physicians who are in possession of modern knowledge concerning the nature, cause, mode of production and means of prevention of such a virulently infectious



disease as Asiatic cholera, is to prove beyond rational dispute that the present quarantine, as a safeguard at the ports under consideration, is dangerously and essentially imperfect.

It is natural, after having made our comments on the defects of the quarantine stations we have described, that we should endeavor to point out their causes and probable remedy. There is one cause so prominent, that we may dwell on that alone. It is the great expense. Were it not for the question of money, there would have been physicians constantly in attendance at the New York station, and consequently, better management and discipline would have been maintained, while at Philadelphia and Baltimore there would have been adequate establishments provided for the isolation and observation of large bodies of immigrants.

Municipalities and States are wont to scrutinize every dollar of their money appropriations, bringing their expenses down to the closest living limit. Quarantine in this country being, as a rule, enforced mainly against yellow fever and small-pox, a mistaken economy has caused no provision to be made for the more perfect establishments absolutely required for protection against cholera.

Philadelphia, Baltimore and other ports of a more limited commerce, are unable to spend as much on their stations as is New York, with its large revenues from that source, yet an inefficient quarantine at any station exposes the whole country to the dangers of the importation of disease. But it is manifestly unfair that a single municipality or State should defray the expense of protecting the whole public.

How, then, can we have equally complete stations all along the coast? We believe that this can be effected by putting quarantine into the hands of the National Government. We know that there are legislative difficulties in the way; that quarantine partaking of the nature of police regulations, its exercise, it may be claimed, belongs to the local authorities. Yet, even if it be conceded to be a police regulation, its scope is not local, but extends over the whole country, and it would seem, in justice, that it should be exercised and paid for by the whole country. Objection is sometimes made to quarantine on the ground that commerce is unduly interfered with, or even destroyed. A modern quarantine, however, does not necessarily involve the detention of cargo, nor prolonged detention of the passengers. It is now known that in the case of cholera the disease germs infest the person, clothing and surroundings of the passengers and crew, while the cargo, except in some rare instances, is free from infection. Non-infected vessels require no detention whatever, the health officer examining them in transit.

Not to speak of the danger which threatens the whole country, the exposure, suffering and loss of life that have occurred among the passengers of the "*Alesia*" detained at the quarantine of observation on *Hoffman* Island, have been due to the imperfect manner in which the



measures of quarantine have been there carried out. Had the details of isolation and disinfection set forth in the earlier pages of this report been immediately and effectually put in force, the passengers who were not already infected at the time of leaving the ship, and this includes the whole number with very few exceptions, might have been released from quarantine in eight days, without the slightest risk to the country.

The thanks of the committee are due to the quarantine authorities of New York, Philadelphia and Baltimore for courtesies extended to it in conducting the investigations upon which this report is based.

Your committee offers the following resolution :

*Resolved*, That in order to secure concerted action among the medical societies of the United States looking to the early adoption of a uniform and efficient quarantine of all exposed ports, the committee be continued and be authorized to issue an address to medical societies of the country, and seek their coöperation.

All of which is respectfully submitted.

J. C. WILSON, *Chairman*.

E. O. SHAKESPEARE.

R. A. CLEEMANN.

PHILADELPHIA, *October 28, 1887.*

---

### III. REPORT ON INTER-STATE NOTIFICATION.

---

By BENJAMIN LEE, *Secretary*.

---

The inter-State notification of the existence of contagious and infectious diseases adopted by this Board at its meeting in November last cannot but be regarded as a decided step in advance in unifying the sanitary administration of the country. The following has been its practical working since its initiation :

November 10, 1886, notification was received from the Secretary of the State Board of Health of Ohio of the existence of a case of small-pox in that State.

November 11, notification was received from the health officer of Philadelphia of the existence of a case of small-pox in that city. On the same day and the following, notification of this case was sent to the secretaries of the boards of health of six contiguous States and the Province of Ontario.

November 17, of a case of small-pox in the city of Philadelphia, and on the 19th notification of the same was sent to contiguous States and the Province of Ontario.

November 23, of a case of small-pox in the city of Pittsburgh. On

the 24th notification of some was sent to contiguous States and the Province of Ontario.

December 2, of a case in Ohio; on the same day notification of same was set to Pittsburgh and Philadelphia.

December 4, of a case in Pittsburgh; on the 6th notification sent to even contiguous States; on the 7th sent to Erie.

December 13, of a case in Ontario; on the 13th notification of same sent to Pittsburgh, Erie and Philadelphia.

December 16, of a case in Pittsburgh; on the 16th notification sent to seven contiguous States.

December 23, of two cases in Ohio; on the 23d notification sent to Erie and Pittsburgh.

December 27, of three cases in Ontario; on the 27th notification sent to Pittsburgh, Erie and Philadelphia.

December 28, of a case in Philadelphia; on the 29th notification was sent to seven contiguous States, Pittsburgh and Erie.

January 6, of a case in Pittsburgh; on the 6th notification was sent to Philadelphia, Erie and seven contiguous States.

January 11, of a case in Pittsburgh; January 11, notification sent to Philadelphia, Erie and seven contiguous States.

February 7, of a case in Philadelphia; February 7, notification sent to Erie, Pittsburgh and contiguous States.

February 10, of a case in Ohio; February 10, notification sent to Pittsburgh and Erie.

February 22, of a case in Connecticut.

March 29, of a case in West Chester; March 29, notification sent to Pittsburgh, Erie, Philadelphia and contiguous States.

April 5, of a case in Philadelphia; April 5, notification sent to Pittsburgh.

May 11, of a case in New York; May 12, notification sent to Philadelphia.

July 1, of a case in Maine.

---

#### IV. REPORT ON GLANDERS IN PHILADELPHIA.

By BENJAMIN LEE, *Secretary*.

On the 5th of September, State Veterinarian Bridge left informant at the executive office that he had discovered four cases of glanders among the stock of one of the street car companies of Philadelphia. The Secretary being absent in attendance on the Conference of State Boards of Health in Washington, the clerk in charge telegraphed for instructions. The following order was immediately re-

turned: "On written certificate of Dr. Bridge that the disease is glanders, the State Board of Health directs the horses to be immediately killed and the premises disinfected." The day following, however, Dr. Bridge reported that the company had taken the alarm and had caused the horses in question to be killed without waiting for the order of the Board. This disease has never been, by legislative action, placed under the control of the Board of Agriculture. The clause in the law creating the State Board of Health which gives it jurisdiction over diseases of domestic animals is therefore a very important one, inasmuch as glanders is readily communicable to the human being, and once contracted is incurable, and is moreover horribly loathesome and painful. The Secretary is in correspondence with the Secretary of the State Board of Agriculture with a view to the establishment of such practical relations between the two Boards as shall enable them to coöperate promptly and decisively in all emergencies.

---

#### V. REPORT ON CASES OF TRICHINOSIS IN OR NEAR THE CITY OF ERIE.

By ED. WM. GERMER, M. D., *President of the State Board of Health.*

---

ERIE, PA., *February 14, 1887.*

DR. BENJAMIN LEE, *Secretary of the State Board of Health.*

DEAR SIR: On January 1, 1875, the family of Philip Marsh, on East Seventh street, five blocks from my office, were reported sick with cholera morbus. The women and five children were sick in bed, and the men staggered around. In the next house two more were sick, and also a couple in the next block. Some acted like persons poisoned with arsenic. Marsh had had two home-raised and well-fed pigs butchered two weeks before, and I found that every one was sick who ate spare ribs and sausages the evening before New Year's Day. Both pigs were pickled in one barrel, I took some meat home, and found one of them full of trichinæ, and stopped the eating of it. The case was published in Dr. Bell's Sanitarian and many newspapers, and every man who had a pound of pork for sale gave me fits for slander-ing the American hog. I have sent samples of the meat all over the State, and showed the scholars in our schools the pork worm with the microscope in spite of the dealers in pork.

(See Sixth Annual Report of the State Board of Health of Massachusetts, 1875.)

In March, 1875, a young man named Dunker, died five miles from the city, and the balance of the family got so sick and acted so queer that the neighbors shunned the house. The sufferers from trichinosis



had had two pigs killed a short time before. One was full of trichinæ, the other not; although both had the *same food and the same pig pen*. The old man thought he had wrenched his back, painted himself with tincture of iodine, took epsom salts, and drank his whiskey regularly, and recovered very quickly. The next case created a big stir-up. Mr. Kellar, the father of the great illusionist and conjurer, known all over the world, bought from an honest farmer two pigs; they were home fed and fattened with corn and milk, and the meat looked beautiful, but one was full of trichinæ, and sickened everybody who tasted it. A German school-teacher, named Raschdorper, became as stiff as a spavined horse, and never got over it. A farmer named Eli Verth, seven miles from town, killed two pigs he raised himself, his family and some neighbors got sick where he sent some sausages as a present. He put a young pig in the same pen, and killed it when seven months old, and it was also full of trichinæ. I advised him to move the pen, and since then his pigs have been all right. Some of the people who had the pigs said that the sick ones did not eat very well, and moved slowly around like wooden pigs. A milkman named Wagner, killed four pigs he raised himself, one was full of trichinæ, the others not. In some places they fed corn which is used in the grape sugar factories, and which contains often dead rats; I saw this with my own eyes. The extracted corn is sold very cheap, about ten cents a bushel, and shipped by the cars to the farmers, and used for fattening pigs. Perhaps it is harmless, but the dead rats in it may do the mischief.

Only a short time ago I examined a twenty-four pound sugar-cured, A No. 1 ham, which was full of trichinæ. A couple of pounds of the same ham was eaten for lunch, but the cook had cooked it before thoroughly. The only safety is in cooking the meat, cut up in *small pieces*, for a *long* while; salting and smoking in the old style also kills the pork worms. The new quick process of curing meat is risky. I observed that the best remedy for the disease was to take first a strong purgative, and afterwards plenty of liquor. Some people will kill a pig, drum up all the neighbors to a metzel supper, where they eat the so-called kettle-flesh, ten minutes after the animal has died, and still containing the animal heat; others will eat raw ham and sausages, and if they get no trichinosis, they will get a tape-worm. Finally I would remark that the German custom laws are not too stringent. A friend of mine took two hams to Germany, they were accompanied with an affidavit, sworn before a notary public at Erie, that they were examined by a microscopist, and that they contained no trichinæ. The custom-officers at Hamburg read the novel passport for the hams and said: If your American pork packers would spend as much time in examining the ham as in trimming them, it would be better. Trichinosis is a horrible disease, and has already done a great deal of mischief. I know a man who served as an officer during the war and afterwards got into a western prison for having poisoned a



wedding party, while a trichina infested small roast pig had done all the mischief. Put the animal and his history in the school books, amongst the dangerous creatures, besides the cobra and rattlesnake, and the next generation will know better how to handle it.

---

VI. REPORT OF SPECIAL COMMITTEE ON SEWERAGE FOR  
THE EAST END, PITTSBURGH.

---

PITTSBURGH, *January 10, 1887,*

*To the Presidents and Members of Select and Common Councils:*

GENTLEMEN: The undersigned, a commission appointed under your resolution to recommend for the information of councils a general system of sewers for the said (East End) district and a plan for the assessment and payment of the cost of the sewers, beg leave to report that in accordance with said resolution they met on the 28th day of October, 1886, and organized by the selection of Mr. John Dunlap as chairman and the appointment of Mr. Frank P. Case as secretary. We have in all held fourteen meetings.

Your commission took up the several basins separately, having access to full plans of the different localities showing the flow of water at all different points, and where the lateral sewers would naturally come in; went personally over the ground, examined into and investigated the necessities of sewerage at different points; informed themselves of the various propositions and suggestions heretofore made in regard thereto, compared figures and plans arrived at with the formulas laid out by eminent engineers and authorities of this country and abroad, and have come to the conclusions herewith presented (marked Exhibit A), which is a record giving the dimensions of main sewers for five basins considered, viz: The Thirty-third street, Negley's Run and Haight's Run basins upon the south side of the Allegheny river, and Soho Run and Two Mile Run basins upon the north side of the Monongahela river.

The distances given it must be understood, are only approximate, the points being fixed, but calculations have been made from the plans in the city engineer's office and are near enough for all practical purposes. To give accurate distances would require a survey and exact location of lines of sewers which we had no warrant for authorizing and indeed time would not have permitted it. At our instance, however, accurate maps or plans have been prepared and are endorsed by us, showing and explaining the main outlets recommended for the general drainage, and are presented herewith. These plans are for your adoption, and if favorably considered, will become a permanent

record of the city and upon them will be continued from time to time designations of the lateral sewers which will connect with and become a part of this general sewer system.

We are pleased to acknowledge that our labors have been much lightened by the full records and diagrams with measurements on file in the city engineer's office, enabling us to intelligently comprehend the necessities of the points personally examined.

The fact that this commission was appointed is of itself evidence that councils feel the great necessity of adopting a general plan of sewerage for this part of the city, and shows that it is the intention to carefully consider the matter and provide such plan. In this view it will not, we hope, be out of place for us to make the following comments. The city of Pittsburgh now comprises a territory of 18,575 acres and nature made it the most susceptible of drainage of any city in the country. With built up and growing communities, however, something more is wanting than is naturally provided, because there is more than surface drainage or the drainage of storm water necessary.

The hurtful and disease-breeding offal of manufactories, dwellings, etc., must be conveyed by subterranean channels in the interest of the well being of the people. With the natural water courses with which the city is so favored, this desideratum can be reached by us much cheaper than by other municipalities, and we urge that provisions be at once made for the construction of all the main sewers herewith recommended. We believe that it would be unwise and wanting in interest in the public health to delay further in the matter.

The old city, now almost completely supplied with sewers, covers a territory of about 1,280 acres, while a part of the East End which needs attention in this particular and which we have had under consideration, comprises 8,018 acres, or a little over 43 per cent. of the whole area of the city.

We are personally cognizant of the fact and its truth is palpable to every observer, that in warm weather many parts of the East End are absolutely unfit for habitation, owing to the polluted atmosphere arising from open runs containing filth of every description.

The commission feels that the community will join them in urging that you speedily determine upon a plan and arrange or provide for its fulfilment, whereby the evil effects occasioned by the want of proper drainage may be as promptly as possible remedied, looking necessarily to the best interest of the taxpayer. We have held these objects steadily and conscientiously in view and believe that if our general plan is accepted and acted upon, that it will redound to the credit of councils and to the well-being of the whole people.

We recommend that these main sewers be constructed of brick and of brick and stone combined according to size, the same to be determined as occasion may require.

Your resolution covers also the matter of a plan for the assessment

and payment (collection) of the cost of constructing these sewers. Upon this question we obtained from the city attorney a statement of the mode of assessing and collecting now in vogue. His communication thereon covering also other matters is herewith submitted (marked Exhibit B). It will be seen therefrom that no change can be made in this particular except by act of Assembly, and as we are informed and believe the system to be good and to have worked well for many years, we refrain from any recommendation upon the subject.

As apropos, however, and for future consideration, we suggest that one great improvement in the matter of payment of this class of work might be made, were the city's financial condition such as to allow it. While as stated the present mode of assessment is deemed to be just and equitable the process of collection is extremely slow. It is a natural supposition that the cost is therefore greater than it would be did all bidders know that the work when completed and passed upon by the city engineer would be paid for promptly.

At our request the city engineer has made careful computations showing the estimated cost of the mains in the several basins as follows:

Thirty-third street basin, . . . . .	\$136,897 00
Negley's Run basin, . . . . .	184,855 00
Four Mile Run basin, . . . . .	102,580 00
Branch of same following Four Mile Run road, . . . .	39,580 00
Soho Run basin, . . . . .	32,360 00
Haight's Run basin, . . . . .	38,520 00

Hoping that this report may be of benefit in your deliberations upon this most important subject, and asking the passage of the accompanying resolution as to clerical and type-writing expenses, we are,

Very respectfully,

JOHN DUNLAP,  
JOSEPH WOODWELL,  
A. BRADLEY,  
CHAS. LOCKHART,  
ROBT. PITCAIRN,  
E. S. MORRISON,  
E. M. BIGELOW.

(EXHIBIT A.)

East End Sewerage.

Recommendation of commission as to dimensions of sewers with approximate length of different sizes for the several basins.

## THIRTY-THIRD STREET BASIN.

	Distances in feet.	Sizes in feet and inches.
From Thirty third street and Penn avenue up Two Mile run to Neville street, . . . . .	5,200	8.
From Neville street to Winebiddle, . . . . .	2,100	7.
From Winebiddle street to Aiken avenue, . . . . .	2,900	6.
From Aiken avenue to Roup street, . . . . .	1,600	5.
From Roup street to Summerlee and Parker streets, From Summerlee and Parker streets along Summerlee streets to Ellsworth avenue, . . . . .	350	4.
From Summerlee street to College street along Parker street, . . . . .	500	3.
From Parker street to Centre street along College street, . . . . .	900	2.6
From College street to near Euclid street along Centre, . . . . .	350	2.
	300	2.

## NEGLEY RUN BASIN.

From Allegheny river to intersection of Butler and River streets, . . . . .	4,000	8.6
Thence to a point near intersection of Fifth avenue extension and Butler street, . . . . .	1,400	7.9
Thence westwardly by Butler street, . . . . .	1,800	4.9
Thence by Butler street extension to River street, .	1,300	4.4
Thence by River street to Everett street and Franks- town avenue, . . . . .	2,000	4.
Thence to Penn avenue, . . . . .	1,100	3.6
Thence to Fifth avenue, . . . . .	2,100	3.
From near intersection of Butler street and Fifth avenue extension to Lincoln avenue bridge, . . .	3,000	6.3
From said bridge to Frankstown avenue, . . . . .	1,900	4.9
Thence to Homewood avenue and Grazier street, .	2,000	3.6
Thence to a point on city line near P. R. R., . . . .	2,100	3.
From Lincoln avenue bridge to Frankstown avenue via Fifth avenue, . . . . .	1,500	3.

## SOHO RUN BASIN.

From Fifth avenue up Soho run, . . . . .	1,500	4.
Thence up said run, . . . . .	1,600	3.9
Thence up said run, . . . . .	1,200	3.6
Thence up said run, . . . . .	1,000	3.
Thence up said run to Herron avenue, . . . . .	1,200	2.

## FOUR MILE RUN.

From the Monongahela river to Boundary street, .	2,000	8.3
Thence along Boundary street, . . . . .	2,000	6.9



	Distances in feet.	Sizes in feet and inches.
Thence along Boundary street, . . . . .	1,500	6.6
Thence along Boundary street, . . . . .	1,000	5.6
Thence along Boundary street, . . . . .	1,500	4.9
Thence to Neville street, . . . . .	1,000	2.6
Branch at a point near Joncaille street, . . . . .	600	3.6
Thence along Joncaille street to Boquet street and Fifth avenue, . . . . .	1,800	2.
Thence along St. Pierre street, . . . . .	800	2.10
Thence along St. Pierre street to Fifth avenue, . .	900	2.
Thence in Ravine near St. Pierre street, . . . . .	1,200	2.
For branch of Four Mile run following Four Mile Run road		
Thence, . . . . .	1,100	5.
Thence, . . . . .	1,400	4.4
Thence, . . . . .	1,300	4.
Thence, . . . . .	1,500	3.9
Thence, . . . . .	1,500	3.6

## HAIGHT'S RUN BASIN.

From Allegheny river south, . . . . .	1,500	4.10
Thence along Haight's run, . . . . .	900	4.4
Thence along Haight's run, . . . . .	1,400	3.9
Thence along Haight's run, . . . . .	1,600	3.3
Thence along Haight's run to Stanton avenue, . .	1,600	2.9

## (EXHIBIT B.)

PITTSBURGH, December 11, 1886,

*To the East End Sewerage Commission :*

GENTLEMEN—I am in receipt of your communication of the 4th inst. in which you “request the city attorney to give us for our information the present law and custom of assessment of sewerage, and how far the commission can go in recommending plan of assessments that will be legal. Also as to the power of the city to enter upon private property and streets not owned or dedicated.”

In reply thereto I would respectfully answer, the act of Assembly entitled “An Act concerning streets and sewers in the city of Pittsburgh,” approved January 6, 1864, pamphlet laws, page 1131, provided, among other things,

SECTION 12. “The said councils are hereby authorized, whenever they may deem the same necessary, to cause sewers to be constructed in any street, lane or alley of said city, and to levy and collect the cost and expense thereof by an assessment upon the properties benefited thereby; the said assessment shall be made by three direct and

disinterested freeholders of said city whom the said councils shall appoint as assessors for that purpose."

The latter part of this section has been changed so that the board of viewers are not appointed by the court of quarter session and hold their office from February to February.

The 13th section of the act provides the mode of assessment, namely: "the said assessors (now known as the board of viewers) before entering upon their duties shall be sworn to assess equitably, justly and without partiality the cost and expenses of the construction of said sewer upon the properties benefited thereby. They shall make or cause to be made a plot and statement showing the location of the sewer, the streets, alleys, et cetera, the location, size and improvements of each property assessed with the amount assessed thereon, and the name of the owner. They shall give ten days' notice to each owner of a time and place when he may see said plot and statement, and when they will hear any complaints or evidence he may have to offer on the subject." The act gives any person aggrieved the right to appeal to the court of quarter sessions, at any time within ten days after a final confirmation by councils, and likewise gives to councils the power to send back the report for further action or to quash the proceedings." The law also provides the time within which the assessment so made shall be paid, and failing in such payment limits the time within which liens shall be filed to secure the same.

I have thus briefly given you the law as now applicable to the construction of sewers in the city of Pittsburgh, and the mode of ascertaining and assessing the costs thereof. Of course there can be no custom modifying this legislation. The board of viewers are governed exclusively by it, and in the performance of their duties must exercise their judgment in determining the persons and properties benefited. The mode, size and necessity of sewers are matters wholly within the discretion of councils and cannot be supervised or controlled in any manner by the courts. The assessment of the benefits derived from any sewer must be fairly, impartially and equitably adjusted and determined by the board of viewers, with the power upon the part of councils and court hereinbefore named. It is the duty of the board of viewers to ascertain the properties so benefited, and in determining this they are not limited to properties immediately on the line of the sewer, but may reach any territory which in their judgment is benefited.

The act which I have in part quoted has been repeatedly approved by our Supreme Court.

The system has been in vogue nearly a quarter of a century, is perfectly understood and has thus far worked well.

Neither your commission nor the councils would have the power to qualify, modify or in any manner change the law.

It is clear the city cannot be held for these improvements; nor, in

its present financial condition, could the city assume any part of the expense, being now beyond the constitutional limitation of indebtedness.

To the latter part of your question I reply that by an act of Assembly entitled "A further supplement to an act entitled 'An act concerning streets and sewers in the city of Pittsburgh,'" approved March 20, 1873, pamphlet laws 525, it is provided and declared :

SECTION 12. "The said city shall have power, when necessary, in the construction of sewers to lay the same through private property, and the damages if any shall be included in and assessed as a part of the cost and expense of the sewer."

This act makes it clear that the city may enter upon private property to construct sewers; and it is equally clear the city may enter upon streets not opened or dedicated because they cannot stand upon any other or higher ground than private property.

Respectfully yours,

W. C. MORELAND,  
*City Attorney.*

---

#### VII. REPORT ON A SERIES OF CASES OF POISONING BY CHROME YELLOW, USED IN COLORING BUNS.

---

By DAVID DENISON STEWART, M. D., *Chief of the Medical Clinic in the Jefferson Medical College; Fellow of the College of Physicians of Philadelphia; &c.*

---

During the summer of the present year, there were brought to the attention of the city of Philadelphia some appalling revelations regarding the ignorant, indiscriminate and criminal use by bakers of a poisonous pigment, chrome yellow (lead chromate), as a cake-dye, whereby, within a brief period, at least eleven deaths and many cases of serious illness are known to have resulted.

By request of Dr. Benjamin Lee, Secretary of the State Board of Health, I have prepared for this annual report a succinct account of such cases of poisoning as I have indubitably traced to this source, and of the circumstances leading to the discovery of the general use by bakers of this substance, with a brief history of the investigation that followed.

The first recognized of these cases and those that led to the discovery of the general use by bakers of chrome yellow, occurred in the family of W. F. Diebel, of 524 Lehigh avenue, Philadelphia, in the early part of the present year. This family, until that time, had been in sound health. The children were, with the exception of one, who had a slight spinal curvature, the result of an injury, bright, wholesome and hearty in appearance, and no hereditary neurotic taint is believed to exist. The whole family, with the exception of Mr. Diebel, who

did not eat of the dyed cakes, became seriously ill and four of them died.\* The symptoms of chrome lead poisoning in these cases were almost entirely cerebral, of the variety technically known as encephalopathy, which is the rarest of the various recognized manifestations of poisoning by lead. So rare is it that it has been supposed to occur only among workers of lead; in those whose occupation favors an extensive absorption of the metal.† It should not, therefore, be a matter of surprise that the encephalopathy was not at first attributed to its true cause, occurring as it did in a family whose surroundings exhibited nothing to indicate the possibility of poisoning by lead, and in whom six of those poisoned were ill with affections which, when severe, are liable to be accompanied by cerebral disorders which manifest themselves similarly. Thus, three of the five had well-marked whooping-cough during this period; one was found, *post mortem*, to have a latent broncho-pneumonia; and another, who was well advanced in pregnancy, had albuminuria, with slight œdema of the legs.

The first of these to show signs of poisoning were Mary D., aged  $5\frac{1}{4}$  years, and Louisa D., aged  $3\frac{1}{4}$  years. Both at that time had whooping-cough, to which, in the absence of any other known assignable cause, the convulsions were then attributed by the physicians in attendance, Drs. Roderer and Stein. Neither child, so far as the parents recollected, had exhibited noticeable symptoms indicating the presence of any malady save the pertussis prior to the onset of the convulsions; though subsequently it was recalled that both, for a short period, had made occasional complaint of abdominal and joint pain, accompanied by slight evidences of gastric disorder, at that time attributed to the pertussis. Their deaths occurred on the 9th and 25th of January respectively, the first in eight hours, the other in twelve, after the development of the convulsions, which, in both, were general, violent and, with slight intermissions, continuous until dissolution.

The other fatal and non fatal cases, all of which were under my care, presented many points of interest, some of which I will briefly recite.

Case III. William D., aged fifteen months, had had whoop in his cough for ten days prior to the onset of the convulsions, which appeared on January 25. He had in all eight severe spasms between that date and February 2, after which he made a gradual though complete recovery. He had been hearty and was well grown for his age and had eaten largely of the dyed buns, for which he, like the others, showed a surprising fondness. For some weeks subsequent to the disappearance of the convulsions, he exhibited symptoms of cerebral

---

\* More detailed histories of these cases, with the exception of Case VII, which I have here purposely somewhat elaborated, will be found in my paper published in the *Medical News*, June 18, 1887.

† Ziemssen's *Cyclopædia*; Tanquerel des Planches, &c.



irritation; there were present a short, harsh cry, great restlessness, irritability, dread of light and sound and, seemingly, a constant headache. A sallow hue of skin and anorexia persisted for some time. A careful regimen, the administration of tonics and later, potassium iodide caused these symptoms to disappear entirely.

Case 10. Lewis D., aged seven and one-half years, died March 19, within twenty-eight hours after the first convulsion. He had had whooping-cough during the preceding December, from which he had quite recovered and, though he had occasionally a slight cough, there had been no whoop in it for one or two months. For a few days prior to the outbreak of convulsions, he showed signs of disorder in the primæ viæ, such as foul breath, anorexia and slight constipation, the latter of which was subsequently thought by the parents to have been present in a mild degree for several weeks, though this could not be determined with certainty. On the day of seizure he was apparently perfectly well, and was at play with a sister when the first convulsion occurred. The seizures were violent, general and almost constant until dissolution and very active medication adopted to check them was of but slight avail. The *post mortem* examination showed evidences of a slight broncho-pneumonia which had been altogether latent during life and which probably was secondary to a lobular collapse occurring at the time of his attack of pertussis. His brain was anæmic, showed no microscopic signs of disease and was surprisingly heavy, weighing fifty-six ounces.

Case V. Mrs. D., aged 37 years, had several epileptiform convulsions, on April 24, at the termination of the eighth month of gestation. Her urine contained albumen in small quantities and there was prætibial œdema, which were then thought to be of puerperal origin. Disturbances of the special senses, and severe cephalalgia, antedated, for a brief period, the outbreak of eclampsia. Her gums, when carefully examined at a later period, showed slight evidence of saturnine intoxication, which became more marked under the administration of potassium iodide and eliminants. It is worthy of note that she fully recovered, went to full term without further accident, and that the infant at birth, though undersized and sallow, was apparently healthy, but, notwithstanding it had received careful attention and was not permitted to nurse the mother, convulsions developed when it was a few weeks old.

Case VI. Amelia D., aged 12 years. Convulsions appeared on May 12, on which date I first saw her. She had then been visibly ailing for several days with symptoms which the parents thought indicated a bilious attack and which they had endeavored to dispel with a purge. There had been great mental and physical depression, severe constant headache, slight febrile movement, total anorexia, and such manifestations of gastric derangement as very fetid breath, heavily furred tongue, nausea and vomiting of matter of a greenish yellow

hue. Her bowels were thought to be moderately well moved daily, and at no time was colic or arthralgia thought to have been present. Death occurred within forty-two hours after the appearance of the convulsions, which, as in the other fatal cases, were severe and frequent, with brief intermissions, during which restlessness, stupor or coma existed, and were but partially influenced by appropriate treatment. The illness of this child, previously robust, succeeded by rapidly recurring convulsions developing without apparent cause, in so brief a time after the seizures in the others, converted the suspicion, entertained since the death of Case IV, into a certainty, that the affections known to have existed in the others at the time of their convulsive seizures and supposed to be the cause were but remotely so, if at all.

Until this time I had been unable to discover symptoms pointing to other maladies than those under which they were known to be laboring at the time the eclampsia appeared, to which it could be attributed, they having been forgotten, absent or unnoticed by the parents. I at first felt at a loss for an explanation, but believing one would be forthcoming as a result of systematic inquiry, I set about again making a careful analysis of the history of all the cases. Renewed inquiry now elicited a few points of similarity in the symptoms of this last and some of the others, preceding the onset of the convulsions, not before developed, which gave material aid to my search, and to which I have alluded in the recital of my cases. An examination now of Cases VII and VIII, whose histories I shall briefly relate, fully confirmed my suspicions and left me in but slight doubt that I had reached the solution of the mystery surrounding the affection which had worked such devastation, though its origin I was still at a loss to explain.

Case VII. Kate D., aged 14 years, had failed physically for several months, when she was brought to me for examination about the time Case VI was taken ill. Her skin, which heretofore had always been rosy, had grown sallow, and there had been a loss of some fifteen pounds in weight. The appetite had become markedly impaired and capricious, and there had been frequent headache with slight pains in the abdomen, back and legs. At this time she was very anæmic, the gums and ocular conjunctives were quite bloodless and her skin was of an earthy yellow hue. Particular attention was not at first paid to her by her parents, who were occupied with the more serious ailments of the others and who were inclined to attribute her condition due to the grief felt in the loss of her much loved relatives, together with the supposed approach of puberty. The headache was diffused throughout the head and was felt in the neck as well; it was deep-seated, dull in character, and had become continuous, with frequent violent exacerbations especially towards evening and in the early morning. It was then accompanied by occasional mental wandering, by *photophobia*, and the pupils were unequal. There had been sleeplessness

with nocturnal restlessness, a condition which was then found to have existed in the other cases. There were present fine tremor in the upper extremities and facial muscles, moderate constipation, occasional slight colicky pains and pains in the loins; attacks of nausea and vomiting of a greenish-yellow fluid; occasional aching in the knees and ankles without swelling, heat or redness; an overacting heart with a markedly accentuated apical second sound, and the temperature and pulse were above the normal. Her urine was free from albumen, as was that of all with the exception of Case V. A small blue "line" existed in the margin of gum at the junction of the left lower canine and first bicuspid, and a slight amount of pigmentation forming a "line" was afterward discovered in the margin of gum about the second upper left bicuspid.

Case VIII.\* Edward D., aged nine years, now began to ail with much the same symptoms as displayed by Case VII, though of a far less pronounced type. He had severe headache and pains in the knees and ankles. There were, beside other symptoms of deranged primal viæ, occasional slight colicky pains and vomiting of a greenish-yellow hued fluid. He was anæmic, and there was fine tremor in the hands and facial muscles and on the tongue when protruded.

Believing lead-poisoning the cause of death in case VI, and very probably in all of the other fatal cases, I removed some of the viscera that a chemical examination might be made, the result of which I have related in the sequel. Her brain weighed 53½ ounces, and showed both macroscopically and microscopically evidence of a long grade of cerebritis, which was probably produced by long continued action of lead.

In my search for the origin of the poisoning, an examination, with no success, of various possible sources, in the house from which it was thought contamination might have proceeded, caused me to look elsewhere for a solution, and it was not long before I succeeded in definitely fixing upon a clew, which followed, brought to light developments of an astonishing and appalling nature. I, at this time recalled having heard about a year before, when attending, for a strangulated hernia, Palmer, a baker doing a prosperous business on Lehigh avenue, in the neighborhood of the Diebels, that he had lost, before going to that part of the town, a number of his family in convulsions, though from what cause or within what period I have not been informed. The recollection of this fact caused me now to inquire closely of Mr. Diebel as to his dealing with this baker, and elicited the intelligence that he had become a regular and extensive customer but a short time preceding the outbreak of the illness in his family, and that his principal purchases were tea and cinnamon buns, which they were in the

---

\*Neither of these cases, VII and VIII, had convulsions; both recovered promptly under treatment.



habit of eating in place of bread at their morning and evening meal, and of which they were all, excepting himself, very fond.

Having in mind the various sources by which lead may gain entrance into the products of the bakery through flour, chemicals used for raising dough, painted wood used as fuel in baking, glazed tiles in the bake oven, and chrome-yellow used as a cake-dye, and scarcely believing that any of these modes save the last at all probable here, since no other cases of poisoning among the baker's patrons, many of whom lived in my neighborhood, had then come to my knowledge, and believing this would have been the case had his wares generally been adulterated, I visited him for the purpose of making inquiry into his methods of baking. I found his wife suffering with a pronounced attack of plumbic colic and asthralgia, and she showed, on close examination other symptoms of chronic lead poisoning. He exhibited, I thought, anxiety and perplexity when made acquainted with her condition but denied being able to enlighten me as to the source of the poisoning, assuring me he made no use of lead in his trade. He informed me that he had lost, between May, 1884, and January, 1886, a wife and six children in convulsions, some of which deaths were suspected to have resulted from lead poisoning, although official inquiry and careful search had not confirmed the suspicion, nor was he inclined to believe the deaths had been caused by lead, but attributed them to typhoid and malarial fever, of which diseases he asserted that some of his family were suffering at the time of their decease. He likewise informed me that during the above-mentioned dates his journeyman, who suffered with colic while in his employ, refused to continue longer with him in his old residence, believing the dwelling in some way responsible for his illness. The baker manifested confusion when asked if he was not aware that the chrome-yellow used to impart color to his cakes contained lead, and replied no, but almost at once, when questioned directly, denied the use of *any* artificial color in their preparation, maintaining stoutly he used eggs alone and in large quantities.

This, however, was disproved by a visit to his cellar into which I had him take me, for, to quote from my report to the *Medical News*, (loc. cit., p. 681). "After making an inspection of his plumbing and the bake-oven, and procuring some samples of his flour and chemicals used for raising dough, he permitted me, after some demurring, to see a pitcher, which contained a quantity of a yellowish substance, partly in solution, which I recognized as chrome yellow. Further inquiry elicited from him the information that he used it solely to give color to his tea and cinnamon-buns, employing about a tablespoonful of the powder and water to a forty-pound mass of dough. He assured me he was unaware of its poisonous nature and did not introduce it into his more expensive cakes, using eggs for them." He subsequently, at the coroner's inquest, testified that he had used the



dye from five to six years and that he had purchased it from a dealer in bakers' supplies, who, it appeared, did not keep it in stock, but got it when ordered, from a well-known wholesale drug and painters' supply house. It was shown that the baker had recently purchased five pounds from this dealer, and that several other varieties of his cakes besides the buns contained it. Dr. Leffmann, who analyzed for me various forms of his cakes, ascertained that while his sponge-cake contained no lead, its bright yellow hue was not due to egg but to an organic color, the chemistry of which is not yet determined.

On making inquiry of Dr. A. A. G. Starck, who I subsequently learned had attended several members of the baker's family in their last illness, I ascertained that he had suspected lead-poisoning from symptoms presented by the sixth fatal case—Emma Lydia Palmer, aged twenty years—prior to the onset of the convulsions; as she had shown pronounced and unequivocal signs of plumbism, such as lead-cachexia, colic, arthralgia, and a very marked blue-line on the gums, and that the seventh case had exhibited the same symptoms and had died in convulsions. But, notwithstanding this, and though these two deaths had been officially inquired into, they were pronounced to have resulted from quite different causes. Dr. Starck, informs me that a search of the premises had been made for a possible source of lead contamination by himself and the medical inspector of the board of health but that none had been found.

There seems no doubt, from the histories I subsequently gleaned of six of these cases that their deaths were the result of lead-poisoning, the source of which was been made evident by the finding of the chrome yellow in the cellar of the baker. Most, if not all, of them apparently had displayed, in a more or less pronounced type, the ordinary symptoms of plumbism for some time preceeding death, and the immediate cause of death was lead-eclampsia. During the period named and immediately after the decease in convulsions of Mrs. Palmer and William a son, an infant aged six months, too young, apparently, to have eaten the dyed cakes, died similarly. This last case is an example of a well-ascertained clinical fact, of which I have recently reported several instances, that the children of saturnine parents are specially predisposed to convulsions which as a rule prove fatal in infancy. I likewise learned from Dr. Starck, that during the period of which these deaths occurred, Palmer himself was prostrated by several attacks of colic, besides displaying various other symptoms of poisoning by lead, such as arthralgia and a marked blue-line on the gums. The present wife of the baker, whom he married shortly after the death of the one mentioned above, and whom I found suffering with pronounced lead-poisoning on my visit of inquiry to his shop, then related to me that soon after her marriage, she was seized with headache, colic and vomiting, and feared to dwell

longer in his house. Thus, all the members of this baker's household at one time or another suffered and six died.

I had, on completing the autopsy in the case of Amelia D., placed her viscera, with various samples of cakes procured from the suspected baker, in the hands of a chemist who, from exigencies of private work, was unable to conduct the analyses to a satisfactory conclusion. The remaining unused parts were then transferred to Dr. Leffmann, who volunteered to undertake the examination though without idea as to a probable successful result. I subsequently gave him the various samples taken from Palmer, together with the chrome yellow, the composition of which I first satisfied myself by a rough chemical test. He at once recognized it as chrome yellow by its physical properties, and further confirmed the recognition by chemical tests. The tea-buns tested by him yielded approximately two grains of lead chromate to each; but because of not getting the viscera in which, in fatal cases of plumbism, lead is usually found, the tests employed did not yield more than slight precipitates of some metal of the lead group, too minute to permit of identification.

Dr. Leffmann, by my desire, joined me in bringing the matter of the deaths to the attention of the district attorney of Philadelphia who referred it to the coroner for investigation; the latter, because of the chemical evidence against Palmer being then insufficient, obtained permission from the board of health to exhume several of the Palmer and Diebel bodies, the viscera of which were then analyzed by Drs. Reese and Leffmann.

As a natural result of the notoriety attending reporting the fatal cases, many pronounced cases of lead-poisoning, subsequently traced to this source, came to light. I visited and thoroughly examined all the reported cases, seeing some of them many times, and got together during the summer, histories of sixty-four cases, with unequivocal symptoms, all of which I succeeded in indubitability tracing to two bakers, Palmer and Schmid. The first reported cases traced to the latter baker occurred in the family of Edward Helm, of 1825 Warder street, Philadelphia. All the five members of this family were affected, one of whom, Annie Helm, aged six and a half years, died. An inquest was held by the coroner, and death was found to have resulted from chronic lead-poisoning due to the consumption of cakes dyed with lead chromate by baker Schmid, who was held as Palmer had been, to await the result of a judicial inquiry.

All of the sixty-four cases had been large consumers of the dyed-cakes, and many had eaten of them daily for weeks or months prior to the appearance of pronounced symptoms of poisoning. In a large number symptoms of nervous depression, often amounting to severe mental and bodily prostration, with disorders of the digestive apparatus not especially suggestive of lead, were prominent for a considerable period before the appearance of such specific lead symptoms as colic,

arthralgia, or encephalopathy. Many of the cases had been treated symptomatically by their physicians for such supposed affections as indigestion, billiousness, malaria, and rheumatism and one in whom colic early developed for peritonitis.

I prepared a careful chemical analysis of the sixty-four cases, which I read before the Philadelphia County Medical Society, on September 14, 1887, and subsequently published in the *Medical News* of December 31, 1887. I have thought it proper here to abridge the description of these cases to the following bare outline, the data of which are taken from this paper to which the Board are respectfully referred for details as to symptoms: 32.81 per cent. (21) of the poisoned, are males, and 67.18 per cent. (43) are females. 78.12 per cent. (50) of the sixty-four showed marked lead cachexia and the remaining fourteen cases exhibited a more or less pronounced sallowness. Neurasthenic symptoms were prominent in nearly all. Colic was present in 76.56 per cent. (49). More or less constant nausea and vomiting for a considerable period, of a greenish yellow hued fluid was present in 79.68 per cent. (51). Lead arthralgia occurred in 73.43 per cent. (47). Paralysis of the extensa muscles of the forearm, typical wrist drop occurred in but two cases, though ataxia of the extensors was present in three others in whom no paralysis occurred. Pronounced headache was present in 73 per cent. (47); in 67 per cent. (43) it was more or less constant for a considerable period, with exacerbations and remissions, and of sufficient severity to indicate involvement of the deep cranial structures. Lead encephalopathy was present in 24.43 per cent.\* (15), in 17.18 per cent. (11) it was manifested as eclampsia, in two, as delirium; in one as coma, and in one as melancholia. The gums of 89 per cent. (57) of the sixty-four showed the blue line and it probably existed in 6 of the remaining seven but was not looked for.

Besides these sixty-four, no doubt many other cases have recently occurred but were not reported. I have heard of eleven well authenticated ones, seven of which I have seen; nine of the eleven were traced to Palmer and two to Schmid. These eleven, with the three Palmer cases, not included with the sixty-four for the reason mentioned in the foot note on page —, swell the list of undoubted cases to seventy-eight.

It was stated at the inquest on the Palmer and Diehl cases by a member of the wholesale drug and painters' supply house, before referred to who, curiously enough, is a lecturer on food adulteration, as well as pharmacy, in the medical department of the University of Pennsylvania, that, to his knowledge, 80 per cent. of the bakers

---

\*If 3 of the earlier Palmer cases were added to these, this percentage would be raised to 26.86 or 18 cases out of 67; and that of the eclampsia variety to 20.89 or 14 cases out of 67. These were undoubted cases of lead-eclampsia, but were not included with the 64 because the lack of detailed history rendered them unavailable for statistical purposes.



and confectioners in Philadelphia were very recently regularly using chrome-yellow, and that it had been in constant use by them as an artificial color for many years. It was shown that all the chrome-yellow so used came from this house. Coroner Ashbridge and Deputy Coroner Powers, both of whom took a very active part in the investigation that followed the report of the Palmer and Diebel cases to the district attorney, visited sixty odd bakers of which all but one were found to be using this dye, and it was ascertained that all were supplied directly or indirectly from this house.

It was shown at the inquest that chrome-yellow had been kept on sale by this firm as bakers' and confectioners' yellow, in packages of one-quarter, one-half and one pound, the latter being most frequently asked for, and that no warning had been given to those the clerks recognized as bakers as to the danger attending its use as a food dye. It was further shown that this firm employed a salesman who regularly visited bakers to solicit orders for chrome-yellow, and that most of it disposed of in this way was marked "free from arsenic," which the coroner inferred was an attempt to mislead purchasers, and cause them to believe the color non-poisonous. It appeared that baker Schmid attempted to purchase from this house a harmless dye, styled "extract of eggs," such as he had employed in his trade in Switzerland, and that he was furnished chrome-yellow, in one and two-pound lots, which he subsequently introduced into his cake dough regardless of quantity, and that, being entirely unaware of its poisonous properties, his wife and himself had eaten of the dyed cakes and had been made ill thereby. The thoroughness of the poisoning in nearly all of the reported of Schmid's victims indicated the recklessness with which he used the dye, but the fact that his wife and himself exhibited undoubted symptoms of plumbism points to his ignorance, that it is a poison.

Commercial chrome-yellow is a rather variable chemical compound. It rarely, if ever, consists of pure lead chromate but contains, as sold to bakers by the drug house before mentioned, usually from sixty-five to ninety-three per cent. of this salt and its chief diluent is calcium carbonate (whiting), though lead, calcium, and barium sulphate may also be used\*. When prepared for painters' use, lead carbonate is often added to render the mass more opaque and of a less decided yellow.

Because of the supposed insolubility of lead chromate and the number of cases I had indubitably traced to its use as a cake-dye, Dr. Leffmann recently undertook some experiments to ascertain the possible presence of lead carbonate as an adulterant, fancying, naturally, the poisoning might have been due to the latter more soluble salt. He tested various samples of chrome-yellow in the market and some

---

\* Poisons: Their effects and detection, Blyth.



procured from several bakers, including the sample obtained from Palmer, but was unable to find lead carbonate in any of them. He, however, ascertained that lead chromate contrary to the generally received opinion, is freely soluble in very dilute solutions of the ordinary household acids, such as citric and acetic, in very dilute hydrochloric acid, and in very dilute solutions of hydrochloric acid and pepsin. A brief consideration of this important fact will explain the ease with which poisoning took place and should not cause surprise at the statement that there is scarcely a doubt that many thousands of cases of poisoning have occurred in our city through lead laden cakes, during the past twenty years, many of which it is feared have been unrecognized by physicians and treated for other ailments. I have recently in my service in the out-patient medical department of the Jefferson Medical College Hospital, seen not a few cases of plumbism, with obscure symptoms, none of which are ordinarily regarded as suggestive of poisoning by lead, yet the metal was found in the urine of a number of these, and placing them on an anti-lead treatment they have recovered. There is likewise a large group with more pronounced and characteristic symptoms that I have in most instances been unable to trace to other sources than dyed-cakes. I have, however, refrained from placing any of these cases on record, not having had the opportunity of making an exhaustive search for other channels of poisoning, which, though, I believe I should not have found.

There is yet another source of danger from lead which, until recently, escaped recognition. I refer to the chrome-yellow dyed noodle. There is no doubt many cases of sickness might be traced to the habitual consumption of this article. It is a source of no little danger since noodles in soup are often fed to invalids and convalescents, under the belief that their bright yellow hue indicates, as had been supposed in the case of the buns, the presence of an abundance of eggs. Dr. Leffmann found eight grains of lead chromate to the pound in a sample I placed in his hands for analysis, obtained from Krumm, a prominent noodle baker of Philadelphia, who subsequently stated he had made habitual use of this dye for thirteen years; samples obtained from other makers were likewise found to contain lead.

Drs. Reese\* and Leffmann found lead in the viscera of all the four Palmer and Diebel bodies exhumed, and in that of Annie Helm, referred to on page —. It was found in largest amounts in the liver. Its non-presence in all the organs indicates that it is not a normal constituent of the body as are some other metals, such as copper. Thus Dr. Thomas Stevenson, of Guy's Hospital—Guy's Hospital Reports, 1882, xxvi, p. 483—quoted by Putnam,† states: "It has been recently stated by M. Armand Gautier that ordinary persons take lead to the

---

\* *Vide* report in *The Medical News*, August 27, 1887.

† *Boston Medical and Surgical Journal*, July 28, 1887.

extent of at least  $\frac{1}{100}$  grains daily in their food. My own extensive experience leads me to the conclusion that it is exceptional to find a trace of lead in the body, except in cases of lead poisoning, but that, on the other hand, it is equally exceptional not to find traces of copper in the human body after death." It is further stated by Putnam (loc. cit.), that Professor Hills, of Harvard, has told him that in making analyses of the human tissues he has often found copper, but has never found lead. Dr. Leffmann informs me that copper was encountered in the viscera of all the five bodies, and in the case of Louisa Diebel, sufficient was found to respond to all the tests.

In conclusion, I desire to state that great credit is due Coroner Ashbridge and Deputy Coroner Powers of Philadelphia, for their hearty coöperation in exposing the guilty; the full extent of the use of chrome-yellow would not have been known but through their efforts. I am much indebted to Dr. Leffmann, hygienist to the State Board of Agriculture, for the above examinations and others not here referred to, in connection with this work, which were undertaken at his own expense, and at first under conditions not promising satisfactory results.

2628 NORTH FIFTH STREET, PHILADELPHIA,

*December 31, 1887.*

Names and Addresses of the Seventy-eight Cases of Lead Poisoning  
Traced to Poisoned Buns.\*

- P. Adams, Mrs. Robert, 2653 Reese street.
- S. Addis, Mrs. T. A. B., 1843 Frankford avenue.
- S. Addis, Gertrude Virginia, 1843 Frankford avenue.
- S. Addis, Viola, 1843 Frankford avenue.
- S. Bieber, Charles F., 1669 Vienna street.
- S. Bieber, Clara, 1669 Vienna street.
- S. Bieber, Ella, 1669 Vienna street.
- S. Bieber, George W., Jr., 1669 Vienna street.
- S. Bieber, George W., Sr., 1669 Vienna street.
- S. Bieber, Robert, 1669 Vienna street.
- S. Bieber, Mrs., 1669 Vienna street.
- S. Botsford, Mr., 1671 Vienna street.
- S. Botsford, Mrs., 1671 Vienna street.
- S. Brown, Ed. C., 1649 Vienna street.
- S. Brown, J. P., Memphis street below Montgomery avenue.
- P. Brice, Mrs. George, south east corner Race and Lehigh avenue.
- P. Deibel, Amelia, 524 Lehigh avenue (died May 14, 1887).
- P. Deibel, Edward, formerly of 524 Lehigh avenue, now 2649 North Eighth street.

---

\* The letter P. placed opposite a name indicates poisoning by Palmer; S. refers to Schmid.

P. Deibel, Kate, formerly of 524 Lehigh avenue, now 2649 North Eighth street.

P. Deibel, Louisa, 524 Lehigh avenue (died January 25, 1887).

P. Deibel, Lewis, 524 Lehigh avenue (died March 20, 1887).

P. Deibel, Mary, 524 Lehigh avenue (died January 9, 1887).

P. Deibel, William, Jr., formerly 524 Lehigh avenue, now 2649 North Eighth street.

P. Deibel, Mrs. W. F., formerly 524 Lehigh avenue, now 2649 North Eighth street.

P. Dobbins, Mrs, 2737 Fairhill street.

P. Esling, Kate, 2626 Fairhill street.

S. Faas, John, 1869 Frankford avenue.

S. Faas, William, 1869 Frankford avenue.

S. Faas, Miss ———, 1869 Frankford avenue.

S. Faas, Miss ———, 1869 Frankford avenue.

S. Fox, Bertha, 1656 Vienna street.

P. Gerseitz, Mrs. John, 2701 Reese street.

P. Hannis, Hans, \*

S. Helm, Annie, 1825 Warder street (died July 25, 1887).

S. Helm, Edward, 1825 Warder street.

S. Helm, Mrs Edward, 1825 Warder street.

S. Helm, John, 1825 Warder street.

S. Helm, Kate, 1825 Warder street.

S. Helm, Theodore, 1825 Warder street.

S. Haigh, Mrs. ———, 1904 Sepviva street.

P. Hunt, Mrs. Mariette, 2644 Fairhill street.

S. Hyzer, Mrs. ———, 1651 Vienna street.

S. Hyzer, Miss ———, 1651 Vienna street.

P. Lamon, Mrs. George W., Ninth street and Lehigh avenue.

P. Lamon, Miss Eva, Ninth street and Lehigh avenue.

P. Lamon, George, Jr., Ninth street and Lehigh avenue.

S. Lyster, Mrs, 1819 Warder street.

P. May, Mrs. Matilda, 2646 Fairhill street. †

P. Matson, Jacob, 1921 Sargent street.

S. McFadden, Emanuel, 1671 Vienna street.

S. McFadden, Joseph, 1671 Vienna street.

S. McFadden, Kate, 1671 Vienna street.

S. McFadden, Mrs. Mary, 1671 Vienna street.

P. Muller, Gustavus, north-east corner Fairhill and Somerset streets.

P. Muller, William, north-east corner Fairhill and Somerset streets.

P. Palmer, Charles (died May 8, 1884), formerly of 143 Otter street.

---

\* His present address I cannot ascertain. He resided with Palmer until June, 1887. His address was afterwards published as being at Lehigh avenue and Orkney streets.

† Removed since; present address not known, but may be reached at 2644 Fairhill street.

P. Palmer, Mrs. G. M. (\*) (died May 21, 1884), formerly of 145 Otter street.

P. Palmer, William (died June 28, 1884), formerly of 143 Otter street.

P. Palmer, Mary (died July 10, 1885), formerly of 143 Otter street.

P. Palmer, Emma Lydia (died December 13, 1885), formerly of 143 Otter street.

P. Palmer, Jr., George M. (died January 24, 1886), formerly of 143 Otter street.

P. Palmer, Sr., George M. formerly of Otter street, lately of 504 Lehigh avenue. Now undergoing a term of imprisonment for adulteration of food.

P. Palmer (†), Mrs. George M., formerly of 504 Lehigh avenue.

P. Phillips, Elizabeth, 2640 Fairhill street.

P. Phillips, Mary, 2640 Fairhill street.

P. Phillips, Matilda, 2640 Fairhill street.

P. Rosenberger, John (Palmer's journeyman when at 143 Otter street. Present address not known).

P. Scollin, Annie, north-west corner Lehigh avenue and Lawrence streets.

S. Schmid, F., formerly of north-west corner of Frankford avenue and Vienna street. Now undergoing a term of imprisonment for adulteration of food.

S. Schmid, Mrs. F., formerly of north-west corner of Frankford avenue and Vienna street.

P. Slater, Mrs. —, 2749 North Fifth Street.

P. Slater, Miss —, 2749 North Fifth street.

P. Stirling, Mrs. —, 2719 Fairhill street.

P. Van Giesen, Mrs. —, 609 Cumberland street.

S. Wolf, Miss —, 1904 Sepviva street.

P. Vehrheim, Henry, ‡ 2209 East Dauphin street.

---

\* Palmer's second wife.  
when at 504 Lehigh avenue.

† Palmer's third wife.

‡ Palmer's journeyman



## APPENDIX I.

---

### CORRESPONDENCE.

---

1. Correspondence in Relation to the Interpretation of the Law in Regard to Health Officers.
  2. Letter in Reference to the Water Supply of Scranton.
  3. Letter to the Health Officer of Pittsburgh in Reference to the Transportation of Dead Bodies.
  4. Letter from the General Baggage Agent of the Pennsylvania Railroad Company, in Reference to the Transportation of Dead Bodies.
  5. Correspondence in Reference to the Prevalence of Epizootic Spinal Meningitis in New Jersey.
- 

#### I. CORRESPONDENCE IN RELATION TO THE INTERPRETATION OF THE LAW IN REGARD TO HEALTH OFFICERS.

---

*June 1, 1887.*

BENJAMIN LEE, M. D.,

*Secretary State Board of Health :*

MY DEAR SIR: A diversity of opinion is being expressed as to the exact intent of the municipal bill as finally passed by the State Legislature. Some attorneys claim that the office of health officer, hitherto held by a physician, is abolished, owing to the fact that the law requires that two of the members of the board shall be physicians. Other attorneys hold the opinion that physicians may and should fill the position of health officer, as heretofore. I should deem it a favor if you would give me your opinion at your earliest convenience, and oblige,

Yours respectfully,

---

STATE BOARD OF HEALTH, EXECUTIVE OFFICE,  
PHILADELPHIA, *June 11, 1887.*

DEAR SIR: Your letter and the newspaper articles in reference to the interpretation of the clause in the new municipal bill in reference to health officers are received. I would say in reply, that I appeared

before the convention and pointed out to them among other things the ambiguous character of the wording of that portion of the law, fearing that exactly the difficulty might arise which has, so immediately, in the case you cite. My own opinion, and I am confident that I shall be sustained in it by the entire Board, is that, first, the fact that two members of the board of health of the city must be physicians, does not convey and was not intended to convey the slightest intimation that the health officer should not also be a physician.

Many boards of health are composed entirely of physicians and yet the health officer is a physician also. Secondly, the fact that police powers are conferred upon the health officer does not, and was not intended to convey the slightest intimation that he should not be a physician. The question is left an entirely open one, as to what the previous calling of this official shall be, and probably wisely so. There are admirable health officers in the State who are not physicians. Other things being equal, the education of the physician gives him advantages in some respects, as a sanitarian, over one who has not had his training. Certainly were the opposite interpretation of this law maintained, it would deprive this Commonwealth of the services of some of her most energetic and successful health officers, and among them of none who have done more thorough, intelligent and acceptable work than the present president of this Board, who has also been for many years the highly esteemed health officer of the city of Erie. In conclusion I will say unhesitatingly that the influence of the State Board of Health will be used to prevent the dismissal for merely political reasons of any medical officer of health who has filled his position honorably and acceptably to his constituency.

I have the honor to be, dear sir, yours, very respectfully,

BENJAMIN LEE,  
*Secretary.*

---

## II. LETTER IN REFERENCE TO THE WATER SUPPLY OF SCRANTON.

---

STATE BOARD OF HEALTH, EXECUTIVE OFFICE,  
PHILADELPHIA, *May 18, 1887.*

J. O'MALLEY, M. D.,

*Health Officer of Scranton :*

DEAR SIR: Your communication with reference to the sources of water supply of your city is received. I regret to say that your board of health is powerless in the matter, except in so far as it can influence public opinion. The State Senate has just defeated a bill to create the office of medical officer of health for each county. If that had become a law we could have dealt efficiently with such cases. I

had also a bill before the House to prevent the deposit of noxious and decomposing animal matter in streams, which they failed to reach. We have little solid ground to stand on beyond the able opinion of Judge Thayer of this city, on the subject of the protection of streams used as a source of water supply, which you will find in the First Annual Report of our Board, in the report of the Committee on Water Supply. Of course your board could enter suit against the parties polluting your water, but that is a tedious and often unsatisfactory method of procedure. I enclose blank forms of complaint. If you will fill up as many as you consider necessary, giving in each the character of the nuisance and full name of the party maintaining it, I will consider the report sent me to-day, as the equivalent of a report of an inspector of this Board, and on receiving the complaints signed either by yourself or by the authorized representative of the Scranton board, I will issue orders to the offenders to abate the nuisances. If these are not attended to within a reasonable time, I will instruct the district attorney of your county to enter suit against them, and will ask you to obtain all the evidence possible for the trial. It is quite possible that the order will be obeyed. If not, we shall have to make a fight of it, as it is quite clear to me from your report that both the reservoirs are in danger of very serious pollution, and that no time should be lost in having them properly protected. I would advise giving the subject publicity through the press, and it might even be well to have a mass meeting of the citizens to give expression to the public sentiment, if you think it is sufficiently formed.

Yours very respectfully,

BENJAMIN LEE,  
*Secretary.*

---

III. LETTER TO THE HEALTH OFFICER OF PITTSBURGH IN REFERENCE TO THE TRANSPORTATION OF DEAD BODIES.

---

STATE BOARD OF HEALTH, EXECUTIVE OFFICE,  
PHILADELPHIA, May 17, 1887.

MR. CROSBY GRAY,

*Health Officer of Pittsburgh :*

DEAR SIR: In the matter of the transit permits, I would say, taking up your questions seriatim :

*First.* The State Board desires to have a uniform system for the transportation of dead bodies throughout the State, and would therefore prefer that each local board should substitute the prescribed form for its own.

*Second.* The prescribed form is to be issued and furnished by the local board as its own and in its own name.

20 BOARD OF HEALTH.

*Third.* Where no local board exists, the sanitary commissioners of councils, or the health officer, or the chief burgess, or a justice of the peace, may issue it.

*Fourth.* The State Board of Health will issue the regulations to railroad companies, but the local board should issue them to undertakers, etc.

*Fifth.* I do not consider that Rule 5 practically conflicts with Rule 7 because the permit is in itself, *prima facie* evidence that the physician's certificate has been given.

*Sixth.* The use of the coupons has not seemed to occasion any complications in New York State where this form has been in use for some time. I may say that, pending legislation in the interest of the Board, I have abstained from distributing the regulations, thinking it could be done more efficiently through the county officers of health.

Yours truly,

BENJAMIN LEE,  
*Secretary.*

---

#### IV. LETTER FROM THE GENERAL BAGGAGE AGENT OF THE PENNSYLVANIA RAILROAD COMPANY IN REFERENCE TO THE TRANSPORTATION OF DEAD BODIES.

---

PHILADELPHIA, June 20, 1888.

BENJAMIN LEE, Esq.,

*Secretary State Board of Health, Harrisburg, Pa.:*

DEAR SIR: I have before me a copy of the regulations of the State Board of Health in regard to the transportation of dead bodies, published in the May number of the *Annals of Hygiene*.

I note that by Rule 2d, when death was caused by scarlet fever, diphtheria, typhoid fever or measles, dead bodies may be transported without restriction from October 15 to April 1, if enclosed as prescribed in Rule 3d.

I have before me also a copy of a resolution passed by the board of health of this city, signed "Wm. P. Troth, Chief Clerk," which bears no date, but which I think was issued last year, prohibiting, without any condition whatever, the transportation by public conveyance of all bodies when the disease which caused the death was diphtheria or scarlet fever, among other contagious diseases which are named. Will you be kind enough to advise me in regard to this apparent discrepancy and oblige. I desire the information in connection with a new book of rules which I am now preparing. I find some difficulty in formulating rules for the guidance of baggage agents relative to transportation of dead bodies which may be acceptable to all concerned and which will be in accordance with the rules of the various boards



of health in the States traversed by these lines. All requirements so far as the railroad companies are concerned would be subserved if boards of health or local health officers would simply write on their permits that the corpse was free from contagion. It would then not be necessary for us to try to give our agents a list of contagious diseases by which they might be governed. The board of health of Philadelphia, however, has refused to comply with this simple requirement and the most that they will do is to name the diseases on their permits.

Very truly,

F. J. McWADE,

*General Baggage Agent.*

I enclose draft of proposed rules and would be glad to have your comments. How should cerebro-spinal-meningitis, relapsing fever and varioloid, be classed? These are among the diseases prescribed unconditionally by the Philadelphia board of health.

F. J. McW.

---

**Regulations in Regard to Transportation of Dead Bodies.**

A full first-class ticket will be required for the transportation of a corpse or the cremated remains of a corpse without regard to the age of the deceased. Special limited tickets will be accepted. Baggage agents will obtain the ticket from the person in charge and give it to the train baggage master. A corpse will not be forwarded unless it is accompanied by a certificate from the shipping undertaker that the body has been prepared for transportation in accordance with the rules of the State Board of Health, also by a permit from board of health, or in places where there is no board of health, by a certificate of death of a reputable physician. The transportation of bodies of persons who died from small-pox, asiatic cholera, typhus fever or yellow fever is strictly forbidden without exception. Those who died of diphtheria, scarlet fever, typhoid fever or measles will not be carried unless accompanied by a certificate of the local health officer that in the transportation there is no risk of contagion.

Certificates or permits will be returned to the passenger in charge of the corpse, except when its retention by baggage masters is desirable to facilitate transfer to foreign roads and through New York city. A permit only for burial will not be accepted as authority for transportation. Upon the presentation of a ticket a corpse may be checked to any point on the line of these roads, also to points on the leased lines of the Pennsylvania company west of Pittsburgh and Erie, Lehigh Valley railroad, New York and Long Branch railroad, Tucker-ton railroad, Delaware River railroad, Cumberland Valley railroad, New York, Philadelphia and Norfolk railroad, Norfolk, via Bay Line steamers, Richmond, Fredericksburg and Potomac railroad, New York, Hew Haven and Hartford railroad and New York and New England

railroad, via Steamer Maryland route only. When destination is New York city, or a point beyond, except as above specified, checks will be issued to Jersey City only, where it will be necessary to procure a permit from the board of health for transportation to or through New York city. The baggage agent at Jersey City will procure such permit upon application to him by telegraph or otherwise.

---

V. CORRESPONDENCE IN REFERENCE TO THE PREVALENCE OF  
EPIZOOTIC SPINAL-MENINGITIS IN NEW JERSEY.

---

At a special meeting of the Board held in Philadelphia, Wednesday, August 31st, the Secretary was instructed to communicate with Mr. Thomas J. Edge, the Secretary of the State Board of Agriculture, Dr. E. M. Hunt, the Secretary of the State Board of Health of New Jersey, and the Secretary of the Board of Health of the city of Camden, in order to ascertain whether the precautions taken by the authorities to prevent the spread of the epizootic disease now prevailing among horses in the State of New Jersey, and said to be of the nature of spinal-meningitis, are such as to preclude the danger of the introduction of the disease into the State of Pennsylvania.

The following correspondence shows clearly that in the minds of all those who have made the diseases of the horse a special study, the disease in question is looked upon as an endemic, due to local atmospheric and telluric conditions, and as not communicable from animal to animal, and therefore as not demanding measures of disinfection and quarantine.

The exposition of the subject by Secretary Edge, is especially clear and instructive.

BENJAMIN LEE, M. D.,  
*Secretary.*

---

COMMONWEALTH OF PENNSYLVANIA,  
BOARD OF AGRICULTURE,  
HARRISBURG, *September 2, 1887.*

BENJAMIN LEE, M. D.,  
*Secretary State Board of Health, Philadelphia, Pa. :*

DEAR SIR: Yours of the 1st at hand and contents noted. You ask "whether the Board of Agriculture, is taking the necessary steps to prevent the epizootic spinal-meningitis, now prevailing in the State of New Jersey, from entering this State?" To this I would answer yes, with the following qualifications.

The disease is not contagious. It is caused by peculiar conditions of the atmosphere and may therefore be considered miasmatic or

malarial in its nature: It will attack the animals in certain stables; These animals if removed from these surroundings and placed among other horses not subject to the same conditions as caused the disease, will not spread the disease; I would not hesitate to take the worst New Jersey case and put it among my own horses: This being the case a cordon would be of no value whatever. If a Philadelphia stable is not exposed to the atmospheric conditions which produce the disease in New Jersey, the introduction of diseased New Jersey horses would do no harm.

In the outbreaks which from year to year come under our notice we confine our attempts to the removal, if possible, of the causes; if this is due to a wide-spread (as in New Jersey) atmospheric condition, we could do but little; In all of our outbreaks in this State we have found them to be due to local causes and to yield to our application of a remedy in the form of a removal of the cause.

I have followed up the New Jersey outbreak as closely as was possible under the circumstance and it but demonstrates the correctness of our views of the disease as laid down by ten years of practical experience with the disease, viz., that it is not contagious but is due to, in most cases, a local cause, such as bad food, bad ventilation or improper atmospheric conditions; if these are wide spread, it of course takes the form of an epidemic, but this by no means proves that it is contagious.

We always expect outbreaks of this disease from the middle of August to the middle of September and so far as I know have not been without them since I have given my attention to the matter; we are liable to them at any time of year, but seldom have them during cold weather. We are more liable to them after sudden changes of temperature, particularly from warm to cooler weather as in the present season.

So far as I know, all outbreaks in Philadelphia have been reported to Dr. Bridge, and are now in his charge; we have no more in the State than we usually have at this time, and from perfectly reliable sources, I am informed that there is very little, if any more, on New Jersey than usual; the extent of the disease has been much exaggerated. The Pennsylvania and Philadelphia horse owners have no reason to fear the introduction of the disease by contagion for they have not been without it for many years and probably will never be free from it.

If you will consult with Prof. Huidekoper, he will give you many other points which I must omit for want of space, but the essential one is that the disease is not contagious, and if it extends to our State can only do so by atmospheric influences which we cannot control and which we cannot provide against.

Respectfully yours,

THOS. J. EDGE,  
*Secretary.*

STATE BOARD OF HEALTH,  
TRENTON, N. J., *September 3, 1887.*

BENJ. LEE, M. D., *Secretary :*

DEAR DOCTOR : Our law only reaches contagious diseases of animals, and even singles out glanders and pleuro-pneumonia. While we always send veterinary inspectors to inquire into first cases of any spreading disease among animals, so soon as we find it not to be of a contagious character, we advise all owners to rely on their local veterinaries as the State does not pay in such cases. The disease began, I think, three weeks ago in Delaware. It is not prevalent in this part of our State but chiefly in Atlantic and Cape May counties. A letter to-day from that section reports it to us on the decrease.

Truly yours,

E. M. HUNT.  
*Secretary.*

---

OFFICE OF THE BOARD OF HEALTH,  
CAMDEN, N. J., *September 3, 1887.*

BENJ'N LEE,

*Secretary Pennsylvania State Board of Health :*

DEAR SIR : I am directed to state to you that Wm. B. E. Miller, State of New Jersey veterinary surgeon, is one of our board and has charge of all contagious diseases. He stated this morning that this new disease is abating, and if we had one good frost it would kill it.

Yours respectfully,

SEPTIMUS KNIGHT,  
*Health Inspector.*

---

UNIVERSITY OF PENNSYLVANIA,  
VETERINARY DEPARTMENT,  
PHILADELPHIA, *September 5, 1887.*

BENJ. LEE, ESQ., M. D. :

DEAR SIR : With regard to the epizootic outbreak of cerebro spinal-meningitis in New Jersey, I will say that no action on the part of your Board is needed, as there is no danger of serious visitation in this city. The disease is a true miasmatic one, and due entirely to local causes. Any particulars you may desire I will gladly furnish by interview at your office or mine.

Very respectfully,

W. L. ZUILL.



## APPENDIX K.

---

### COMPLAINTS ON WHICH ACTION WAS TAKEN DURING THE YEAR 1887.

---

1. Rose Glen, Montgomery county.
  2. Tarentum, Allegheny county.
  3. Derry, Westmoreland county.
  4. Chester, Delaware county.
  5. Lansdowne, Delaware county.
  6. Natrona, Allegheny county.
  7. Bryn Mawr, Montgomery county.
  8. Chartiers, Allegheny county.
  9. Fernwood, Delaware county.
  10. Allegheny Furnace, Blair county.
  11. Troy, Bradford county.
  12. Covington, Tioga county.
  13. Scottdale, Westmoreland county.
  14. West Brownsville, Westmoreland county.
  15. Homestead, Allegheny county.
  16. Worfordsburg, Westmoreland county.
  17. St. Mary's, Elk county.
  18. Hulmeville, Bucks county.
  19. Conshohocken, Montgomery county.
  20. Unionville, Chester county.
  21. Sellersville, Bucks county.
- 

I. Complaint of the storage and transportation of dynamite at Rose Glen, Lower Merion township, Montgomery county. Report of inspection by Wm. B. Atkinson, M. D., showed great carelessness in the matter, constituting a dangerous nuisance. Board declined to interfere for want of sufficiently definite legislation upon the subject.

II. Complaint of unsanitary conditions at Tarentum, Allegheny county, producing typhoid fever. Inspection by Mr. Hunter showed defective drainage and filthy surroundings. A conference with authorities by the inspector.

III. Complaint of unsanitary conditions in Derry, Westmoreland county, producing typhoid and malarial fever. Inspection by Mr. L. H. Hunter, assisted by Crosby Gray, Esq., health officer of Pittsburgh. Conference with authorities.

IV. Complaint of the exhumation of a corpse dead of small-pox at Chester, Delaware county. Regulation of the Board on the subject of exhumation of bodies dead of infectious diseases, sent.

V. Complaint of stagnant pool of surface water at Lansdowne, Delaware county. W. B. Atkinson, M. D., Medical Inspector, reported it as a nuisance. Abatement ordered.

VI. Complaint of typhoid fever at Natrona, Allegheny county. Inspection by L. H. Hunter showed only a few cases of measles to exist.

VII. Complaint of open cellar filled with water at Bryn Mawr, Montgomery county. W. B. Atkinson, M. D., Medical Inspector, reported it as a nuisance. Abatement ordered.

VIII. Complaint of foul slaughter houses at Chartiers, Allegheny county. Mr. L. H. Hunter, Inspector, reported it a nuisance. Abatement ordered.

IX. Complaint of surface drainage at Fernwood, Delaware county. W. B. Atkinson, M. D., Medical Inspector. Board decided that the complaint was private and did not fall within its jurisdiction.

X. Complaint of unsanitary condition of Allegheny furnace, Blair county. C. B. Dudley, M. D., Inspector. Secretary corresponded with the board of health of Altoona in regard to abatement.

XI. Complaint of unsanitary condition of Sugar creek in Troy, Bradford county. E. D. Payne, M. D., Inspector, reported it as a nuisance. Recommendations for prevention sent to town council.

XII. Complaint of foul slaughter houses at Covington, Tioga county. Inspection by E. D. Payne, M. D. Declared a nuisance and abatement ordered.

XIII. Complaint of general unsanitary condition of Scottsdale, Westmoreland county. Mr. L. H. Hunter, Inspector. Verbal recommendations to authorities.

XIV. Complaint of foul slaughter house at West Brownsville, Westmoreland county. Mr. L. H. Hunter, Inspector. Declared a nuisance and abatement ordered.

XV. Complaint of foul slaughter houses at Homestead, Allegheny county, Mr. L. H. Hunter, Inspector. Declared a nuisance, ordered to be removed.

XVI. Complaint of foul slaughter houses at Worfordsburg. Westmoreland county, Mr. L. H. Hunter, Inspector. Declared a nuisance and abatement ordered.

XVII. Complaint of the unsanitary condition of Elk Creek in St. Mary's, Elk county. Inspection by E. D. Payne, M. D. Consultation with authorities.

XVIII. Complaint of a fat rendering establishment at Hulmeville, Bucks county. Inspection made by William B. Atkinson, M. D. Improvements recommended.

XIX. Complaint of typhoidal pollution of Ballygomingo creek in Conshohocken, Montgomery county. Inspection by W. B. Atkinson, M. D. Physician reprimanded and disinfection recommended.

XX. Complaint of prevalence of fevers at Unionville, Coatesville, etc., Chester county. Inspection by William B. Atkinson, M. D. Cause, imperfect drainage. Circulars distributed.

XXI. Complaint of a filthy bone-boiling establishment at Sellersville, Bucks county. W. B. Atkinson, M. D., Medical Inspector, reported it as a nuisance. Abatement ordered.

## APPENDIX L.

### CONSTITUTION, BY - LAWS, ORGANIZATION AND REGULATIONS OF THE BOARD.

#### CONSTITUTION.

The Constitution of the STATE BOARD OF HEALTH AND VITAL STATISTICS OF THE COMMONWEALTH OF PENNSYLVANIA is the act of Legislature establishing the Board, approved June 3, 1885, of which the following is the correct text :

#### AN ACT

*To establish a State Board of Health for the better protection of life and health, and to prevent the spread of contagious and infectious diseases in this Commonwealth.*

SECTION 1. *Be it enacted by the Senate and House of Representatives or the Commonwealth of Pennsylvania in General Assembly met, and it is hereby enacted by the authority of the same,* That the Governor, by and with the advice and consent of the Senate, shall appoint six persons, a majority of whom shall be physicians of good standing, graduates of regularly chartered and legally constituted medical colleges, and of not less than ten years' experience in the practice of their profession, and one of whom shall be a civil engineer, who, together with the secretary, the mode of whose appointment is hereinafter provided for, shall constitute and be designated as the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania. Of the six persons first appointed, two shall serve for two years, two for four years, and two for six years, from the first day of July next following their confirmation ; and the Governor shall thereafter biennially appoint, by and with the advice and consent of the Senate, two persons, of the same professions as those whose terms of office have just expired, to be members of said Board, to hold their offices for six years from the first day of July next following their confirmation, and until their successors are appointed, excepting the secretary, who

Manner of appointment.

Number of members.

Term of service.

shall continue in office as hereinafter provided; but any member may be re-appointed. Any vacancy occurring in said Board during a recess of the Legislature shall be filled by the Governor until the next regular session of the same.

Manner of organization.

SECTION 2. As soon as possible after the appointment of the first six persons as aforesaid, they shall meet in the office of the Secretary of the Commonwealth, and shall proceed, under the direction of the latter officer, to determine by lot which of them shall serve for the respective terms of two, four and six years. Before entering upon the duties of the office, they shall take the oath prescribed for State officers by the Constitution of the State, and shall file the same in the office of the Secretary of the Commonwealth, who, upon receiving the said oath of office, shall issue to each a certificate of appointment for his respective term of office determined as aforesaid; upon receiving which they shall possess and exercise the powers, and perform the duties, of said Board as defined in this act. Immediately after having taken the oath of office, they shall organize by electing one of their number to be president, and by appointing a proper person, who shall be a physician of good standing, of not less than ten years' professional experience, and a graduate of a legally constituted medical college, to be secretary of said Board, who shall hold his appointment until removed by the appointment of his successor or otherwise. The Board may elect one of its own members secretary, in which case the vacancy thus created shall be filled by the Governor in the same manner as a vacancy caused in any other way. The president shall be elected annually. No member of the Board except the secretary shall, as such, receive any salary; but the actual traveling and other expenses of any member, while engaged on the actual duties of the Board, shall be allowed and paid on presentation to, and approval by, the Auditor General of an itemized account with vouchers annexed.

Appointment of secretary.

Actual expenses of members to be paid.

Duties of secretary.

Salary of secretary.

SECTION 3. The secretary shall be the executive officer of the Board, and shall have all the powers and privileges of a member of said Board, except in regard to voting upon matters relating to his own office and duties as secretary. He shall receive an annual salary of two thousand dollars, which shall be paid him in the same manner that salaries of other State officers are



paid ; and such necessary expenses as the Auditor General shall audit, on presentation of an itemized account with vouchers annexed and the certificate of the Board, shall be allowed him.

SECTION 4. The said Board shall meet at least once every six months, and may also hold special meetings as frequently as the proper and efficient discharge of its duties shall require, in the capitol building at Harrisburg (unless otherwise ordered), and the rules and by-laws of the Board shall provide for the giving of proper and timely notice of all such meetings to every member of the Board. The Secretary of Internal Affairs shall provide and furnish such apartments and stationery as said Board may require in the discharge of its duties. A majority of the members of the board shall, at any regular, called or adjourned meeting, organize and constitute a quorum for the transaction of business.

Time and place of meetings.

SECTION 5. The State Board of Health and Vital Statistics shall have the general supervision of the interests of the health and lives of the citizen of the Commonwealth, and shall especially study its vital statistics. It shall make sanitary investigations and inquiries respecting the causes of diseases, and especially of epidemic diseases, including those of domestic animals, the sources of mortality, and the effects of localities, employments, conditions, habits, food, beverages and medicine, on the health of the people. It shall also disseminate information upon these and similar subjects among the people. It shall, when required by the Governor or the Legislature, and at such other times as it deems it important, institute sanitary inspections of public institutions or places throughout the State. It shall codify and suggest amendments to the sanitary laws of the Commonwealth, and shall have power to enforce such regulations as will tend to limit the progress of epidemic diseases.

Duties and function of board defined.

SECTION 6. In cities, boroughs, districts and places having no local Board of Health, or in case the sanitary laws or regulations in places where board of health or health officers exist should be inoperative, the State Board of Health shall have power and authority to order nuisances, or the cause of any special disease or mortality, to be abated and removed, and to enforce quarantine regulations as said Board shall direct.

Powers of board.

Any person who shall fail to obey, or shall violate,

Penalty for violation and neglect.

such order shall, on conviction, be sentenced to pay a fine of not more than one hundred dollars at the discretion of the court.

Functions of board in registration.

SECTION 7. It shall be the duty of the State Board of Health and Vital Statistics to have general supervision of the State system of registration of births, marriages and deaths, of prevalent diseases, and of practitioners of medicine and surgery, to prepare the necessary methods, forms and blanks for obtaining and preserving such records, and to insure the faithful registration of the same in the several counties and in the Central Bureau of Vital Statistics at the capital of the State. The said Board shall recommend such forms and amendments of laws as shall be deemed to be necessary for the thorough organization and efficiency of the registration of vital statistics throughout the State. The secretary of the State Board of Health and Vital Statistics shall be the superintendent of registration of vital statistics; as supervised by said Board, the clerical duties and safe-keeping of the Bureau of Vital Statistics thus created shall be provided for by the Secretary of Internal Affairs, who shall also provide and furnish such apartments and stationery as said Board shall require in the discharge of such duties.

Secretary of Internal Affairs to provide stationery and apartments.

Local boards of health and institutions to report to board.

SECTION 8. It shall be the duty of all health officers and boards of health in the State to communicate to said State Board of Health copies of all their reports and publications, and also such sanitary information as may be requested by said Board. And said Board is authorized to require reports and information (at such times, and of such facts, and, generally, of such nature and extent as its by-laws or rules may provide) from all public dispensaries, hospitals, asylums, infirmaries, prisons and schools, and from the managers, principals and officers thereof, and from all other public institutions, their officers and managers, and from the proprietors, managers, lessees and occupants of all places of public resort in the State; but such reports shall only be required concerning matters or particulars in respect of which it may, in its opinion, need information for the proper discharge of its duties.

Scientific investigations.

SECTION 9. Said Board may, from time to time, engage suitable persons to render sanitary service or to make or supervise practical and scientific investigations and examinations requiring expert skill, and to prepare plans and reports relative thereto. But no more than

two thousand dollars shall be expended in any one year for such special sanitary service.

SECTION 10. It shall be the duty of said Board, on or before the first Monday of December in each year, to make a report in writing to the Governor of this State upon the sanitary condition and prospects of the State; and such report shall set forth the action of the said Board and its officers and agents, and the names thereof, for the past year, and may contain other useful information pertinent to the objects for which it was created, and shall suggest any further legislative action or precaution deemed proper for the better protection of life and health; and the annual report of said Board shall also contain a detailed statement of the State Treasurer of all moneys paid out by or on account of said Board, and a detailed statement of the manner of its expenditures during the year last past, but its total expenditures shall not exceed the sum of five thousand dollars in any one year. Annual report.

SECTION 11. The sum of ten thousand dollars (\$10,000) is hereby appropriated from the treasury for the purposes of this act and the expenditures properly incurred by the authority of said Board and verified by affidavit, subject, however, to the limitations hereinbefore imposed, and shall be paid by the Treasurer upon the warrant of the Auditor General. Appropriation.

SECTION 12. This act shall take effect immediately, and all acts or parts of acts inconsistent herewith shall be, and are hereby, repealed.

APPROVED: June 3, 1885.

ROBT. E. PATTISON.

### AN ACT

To regulate the publication, binding and distribution of the public documents of this Commonwealth.

SECTION 1. *Be it enacted, etc.*, That from and after the passage of this act the printing, binding, distribution and number of the several public documents of this Commonwealth shall be as follows, to-wit:

XIX. Five thousand copies of the annual report of the State Board of Health and Vital Statistics be printed annually, four thousand to be bound in muslin and one thousand in paper; seventeen hundred and fifty thereof for the use of the House of Representatives, one thousand for the use of the Senate, seventy-

five thereof for the use of the Governor, seventy-five thereof for the State Librarian for distribution and exchange with the States and Territories, five hundred thereof for reserve work, and the remainder thereof for exchange and distribution by the State Board of Health.

APPROVED: The 16th day of April, A. D. 1887.

JAMES A. BEAVER.



**BY-LAWS.**

The By-Laws of the STATE BOARD OF HEALTH AND VITAL STATISTICS OF THE COMMONWEALTH OF PENNSYLVANIA are as follows:

**ARTICLE I.***Officers of the Board.*

SECTION 1. The officers of the Board shall be a president and secretary, as directed by section two of the act establishing the Board.

SECTION 2. All elections shall be by ballot.

**ARTICLE II.***Duties of Officers.*

SECTION 1. The president shall preside at the meetings of the Board, preserve order, and perform such other duties as custom and parliamentary usage require. He shall be *ex-officio* a member of all committees.

SECTION 2. The secretary shall keep the records, and conduct the correspondence of the Board. He shall be custodian of all books, documents, furniture and other property belonging to the Board. He shall give proper and timely notice, in writing, of every regular and called meeting, to each member of the Board, and shall, as executive officer, perform such other duties as are assigned by the act establishing the Board, or by these By-Laws, as the Board may from time to time direct. All communications from the secretary to the Board shall be in writing.

**ARTICLE III.***Meetings.*

SECTION 1. The regular meetings of the Board shall be held on the second Wednesday in May, July and November, at Harrisburg (unless otherwise ordered). At the meeting in July the election of officers shall be held. At the meeting in November the annual report shall be adopted, and at the meeting in May a public address on some sanitary topic shall be delivered.

SECTION 2. Special meetings shall be called by the president, at such time and place as he shall designate, whenever requested in writing by three members of the Board, one of whom shall be the secretary.

SECTION 3. A majority of the members of the Board shall, at any regular, called or adjourned meeting, organize and constitute a quorum for the transaction of business.

## ARTICLE IV.

*Order of Business.*

SECTION 1. All meetings of the Board shall be called to order at the appointed hour by the president. In the event of his absence, a chairman *pro tempore* shall be appointed.

SECTION 2. At regular meetings the business shall be conducted as follows :

1. The secretary shall register the names of the members present.
2. The minutes of the last regular meeting shall be read.
3. The minutes of special meetings held since the last regular meeting may be read if called for.
4. Report of the secretary.
5. Reports of standing committees.
6. Reports of special committees.
7. At the meeting in July, nomination and election of a president for the ensuing year; at the meeting in November, appointment of standing committees.
8. Unfinished business.
9. New business.
10. Adjournment.

SECTION 3. At special meetings the following shall be the order of business.

1. Registration of names of members present.
2. Reading of minutes if called for.
3. Presentation of special subject.
4. Presentation of accounts.
5. Adjournment.

## ARTICLE V.

*Report of the Secretary.*

The secretary shall at the meeting in November make a full report of his official acts during the year ending October 1 preceding, and accompany the same with recommendation of such measures as he shall deem necessary for the preservation of the public health and the faithful execution of the law; and this report shall constitute the basis of the report of the Board to be presented to the Governor on or before the first Monday of December in each year, in accordance with the requirements of section 10 of the act constituting this Board.

## ARTICLE VI.

*Standing Committees.*

SECTION 1. The following standing committees shall be appointed by the president of the Board at the meeting in November :

1. An executive committee.

2. A committee on registration and vital statistics.
3. A committee on preventable diseases, disinfection and supervision of travel and traffic.
4. A committee on water supply, drainage, sewerage, topography and mines.
5. A committee on public institutions and school hygiene.
6. A committee on adulterations, poisons, explosives and other special sources of danger to life and limb.
7. A committee on sanitary legislation, rules and regulations.

SECTION 2. Such papers, communications or other matter received by the secretary as he may deem proper for the purpose he shall forward to the chairman of the appropriate committee, after filing the titles and memoranda, which shall be recorded in the secretary's office.

SECTION 3. All reports of committees shall be in writing.

#### ARTICLE VII.

##### *Finances.*

SECTION 1. All accounts against the Board shall be filed with the secretary, and may be presented at any meeting of the Board, when they shall be acted on in open session; and all accounts allowed shall be indorsed "Approved by order of the State Board of Health and Vital Statistics," and shall be indorsed by the president and secretary.

SECTION 2. The secretary shall record in a book reserved for that purpose all accounts of expenditures ordered, or made by the Board and its several members, and shall before presenting any bill, account or voucher to the Auditor General, cause a copy of the same to be recorded, and shall have stamped upon such voucher, account or bill the audit and date, as the executive committee shall provide.

#### ARTICLE VIII.

##### *Executive Committee.*

SECTION 1. The executive committee shall consist of not less than three members, including the secretary of the Board, who shall be secretary of the committee.

SECTION 2. It shall have the general supervision of the finances, purchases, expenses and publications of the Board.

SECTION 3. Its office shall be in the city of Philadelphia until otherwise ordered.

SECTION 4. It shall hold meetings at least quarterly, and as much oftener as it shall deem necessary, and shall meet on the call of the chairman.

SECTION 5. With the approval of the Board or of the executive committee, the secretary shall make requisition upon the Secretary of In-

ternal Affairs for such stationery, printed forms, clerical labor, apartments and furniture as shall be needed for the use of the Board.

SECTION 6. No purchases shall be made or expenditure incurred except by order of the Board or of the executive committee; and the executive committee shall not have power to incur any indebtedness beyond the amount appropriated by law.

ARTICLE IX.

*Rules of Order.*

In conducting the business of the meetings of the Board, the parliamentary rules governing the Legislature of the State of Pennsylvania shall be adopted so far as they are applicable to its deliberations.

ARTICLE X.

*Seal.*

The seal of the Board shall be circular in shape, bearing on the circumference the words, "State Board of Health. Pennsylvania. 1885. *Salus Populi Suprema Lex*," and in the center the coat of arms of the Commonwealth.

ARTICLE XI.

*Amendments.*

These By-Laws may be altered or amended at any regular meeting of the Board by a two-thirds vote of the members present.

---

STATE BOARD OF HEALTH AND VITAL STATISTICS OF THE  
COMMONWEALTH OF PENNSYLVANIA.

---

Officers and Members.

*President.*

HON. DAVID ENGELMAN, M. D., of Easton.

*Secretary.*

BENJAMIN LEE, M. D., of Philadelphia.

*Members.*

PEMBERTON DUDLEY, M. D., of Philadelphia.

DAVID ENGELMAN, M. D., of Easton.

JOSEPH F. EDWARDS, M. D., of Philadelphia.

J. H. McCLELLAND, M. D., of Pittsburgh.

HOWARD MURPHY, C. E., of Philadelphia.

GEORGE G. GROFF, M. D., of Lewisburg.

BENJAMIN LEE, M. D., of Philadelphia.



*Place of Meeting.*

Supreme Court Room, State Capitol, Harrisburg (unless otherwise ordered).

*Time of Meeting.*

Second Wednesday in May, July and November.

**Executive Committee.**

*Members.*

PEMBERTON DUDLEY, M. D., *Chairman.*  
HOWARD MURPHY, C. E.  
JOSEPH F. EDWARDS, M. D.  
BENJAMIN LEE, M. D., *Secretary.*

*Place of Meeting.*

(Until otherwise ordered).

Executive office, 1532 Pine Street, Philadelphia.

*Time of Meeting.*

Third Wednesdays in January, April, July and October.

*Secretary's Address.*

1532 Pine Street, Philadelphia.

*Bureau of Registration of Vital Statistics.*

Department of Internal Affairs, State Capital, Harrisburg.

*State Superintendent of Registration of Vital Statistics.*

BENJAMIN LEE, M. D.

---

**REGULATIONS OF THE BOARD.**

(R. I.)

**REGULATION IN REGARD TO THE ABATEMENT AND REMOVAL OF  
NUISANCES.**

Whenever a complaint is made in writing to the Secretary of the Board of the existence of a nuisance, he shall forthwith, as executive officer of the Board, investigate the matter, and shall determine whether the alleged nuisance is detrimental to the public health, or the cause of any special disease or mortality; and in case he shall so find, then he shall notify the owner, agent or occupier of said prem-

ises, in writing, of such finding, and the executive officer shall thereupon order and direct the abatement and removal of the same within — days; and in the event of the failure of said owner, agent or occupier of said property to abate and remove the nuisance, then the executive officer shall proceed to abate and remove the same, and shall employ all the force necessary to do so, and shall proceed by warrant, arrest and indictment to convict the party failing to obey said order of abatement and removal.

---

(B. II.)

PROVISIONAL REGULATIONS FOR PREVENTING HOUSE-YARDS, STREETS, SLAUGHTER HOUSES, STOCK YARDS, HOG-PENS, BONE-BOILING AND FAT-RENDERING AND OTHER SIMILAR ESTABLISHMENTS FROM BEING OR BECOMING PREJUDICIAL TO THE PUBLIC HEALTH.

*Nuisances Defined.*

1. Whatever is dangerous to human life or health, and whatever renders soil, air, water or food impure or unwholesome, are declared to be nuisances and to be illegal; and every person having aided in creating or contributing to the same, or who may support, continue or retain any of them, shall be deemed guilty of a violation of these regulations.

*House-refuse, Garbage, Etc.*

2. No house-refuse, offal, garbage, dead animals, decaying vegetable matter, or organic waste-substance of any kind, shall be thrown upon any street, road, ditch, gutter or public place, and no putrid or decaying animal or vegetable matter shall be kept in any house, cellar or adjoining out-buildings for more than twenty-four hours.

*Noxious Trades.*

3. No person or company shall erect or maintain any manufactory or place of business dangerous to life or detrimental to health, or where unwholesome, offensive or deleterious odors, gas, smoke, deposit or exhalations are generated, within one mile of the limits of any city or borough, without the permit of the board of health or borough council of said city or borough, and all such establishments shall be kept clean and wholesome so as not to be offensive or prejudicial to public health, nor shall any offensive or deleterious waste substance, refuse or injurious matter be allowed to accumulate upon the premises or be thrown or allowed to run into any public waters, stream, water-course, street, road or public place. And every person or company conducting such manufacture or business shall use the best approved and all reasonable means to prevent the escape of smoke, gases and

odors, and to protect the health and safety of all operatives employed therein.

4. The business of bone and horse-boiling shall not be allowed, unless conducted under cover, the building to be provided with smoke-consumers, and a due regard be had to cleanliness in the disposition of the offal. No bone-boiling establishment or depository of dead animals shall be kept or erected in any part of this Commonwealth which is not under the jurisdiction of a local board of health, without a permit from the board of health or borough council of the nearest city or borough.

5. No permit shall be granted to any person or persons to carry on the business of boiling bones and dead animals until after a careful inspection of the locality, buildings and apparatus, and of the plans for conducting the business, by an accredited inspector of the State Board of Health, or, if such inspector be not accessible, then by an inspector appointed for the purpose by the board of health or borough council of the nearest city or borough.

6. No bone-boiling establishments or depositories of dead animals shall be kept or erected in or near to a thickly-inhabited neighborhood.

7. The floors of all bone-boiling establishments and depositories of dead animals shall be paved with asphalt or with brick or stone, well laid in cement, or with some other impervious material, and shall be well drained. All such establishments shall have such an adequate water supply as will enable thorough cleanliness to be maintained.

8. The boiling of bones and dead animals, etc., shall be conducted in steam-tight kettles, boilers or caldrons, from which the foul vapors shall first be conducted through scrubbers or condensers, and then into the back part of the ash-pit of the furnace fire, to be consumed, or by other apparatus equally efficient in preventing or counteracting the offensive effluvia.

9. When bones are being dried after boiling, they shall be placed in a close chamber, through which shall be passed, by means of pipes, large volumes of fresh air, the outlet pipe terminating in the fire-pit.

10. All proprietors of bone-boiling establishments not having, on the first day of July, 1886, permits to carry on the business, and violating these regulations, shall be liable to prosecution for failing to obey this order and also to an indictment at common law for creating and maintaining a nuisance.

11. The permit clerk of each local board of health or borough council shall have provided a book in which to enter the names of all persons engaged in the business of boiling bones and having depositories of dead animals; also, the location of works and appliances as reported by the inspector, whether licensed or not, the number and date of permit, and remarks.

12. No person or persons, without the consent of the board of

health or borough council of the nearest city or borough, shall build or use any slaughter house within the limits of this Commonwealth; and the keeping and slaughtering of all cattle, sheep and swine, and the preparation and keeping of all meats, fish, birds or other animal food, shall be in the manner best adapted to secure and continue their wholesomeness as food; and every butcher or other person owning, leasing or occupying any place, room or building wherein any cattle, sheep or swine have been or are killed or dressed, and every person being the owner, lessee or occupant of any room or stable wherein any animals are kept, or of any market, public or private, shall cause such place, room or building, stable or market, to be thoroughly cleansed and purified, and all offal, blood, fat, garbage, refuse and unwholesome and offensive matter to be removed therefrom at least once in every twenty-four hours after the use thereof for any of the purposes herein referred to, and shall also at all times keep all woodwork, save floors and counters, in any building, place or premises aforesaid, thoroughly painted or whitewashed; and the floors of such building, place or premises shall be so constructed as to prevent blood or foul liquids or washings from settling in the earth beneath.

13. No blood-pit, dung-pit, offal-pit, or privy-well shall remain or be constructed within any slaughter house. Any one offending against this rule shall be guilty of creating and maintaining a nuisance prejudicial to the public health, and shall be required to remove the nuisance within ten days from the date of notice.

14. The owners, agents, or occupiers of all slaughter houses are required, during the months of June, July, August and September, to distribute twice in each week not less than twenty-five pounds of chloride of lime about the premises, and also to remove the contents of any manure-pit or manure-pile on the premises, once in each week, the said premises and contents of manure-pits being hereby declared to be nuisances prejudicial to the public health, unless subject to frequent disinfection and cleaning as herein indicated.

15. *All constables and supervisors are enjoined, and all citizens are respectfully desired, to give information to the State Board of Health of any violation of the health laws, or of the regulations of the Board, so that the sanitary measures adopted by the latter to ensure the health of the people may be fully carried out, and all offenders promptly punished.*

NOTE.—Section six of the act of June 3, 1885, confers upon the State Board of Health power and authority to order nuisances to be abated and removed in cities, boroughs, districts and places having no local board of health. Any person violating or failing to obey such order becomes liable, on conviction, to a fine of one hundred dollars.



## (R. III.)

REGULATIONS IN REGARD TO THE SANITARY SUPERVISION OF TRAVEL  
AND TRAFFIC.

Upon satisfactory information of the approach to, or the transit through, the Commonwealth of Pennsylvania, of infected persons or goods, it shall be the duty of the Secretary, as executive officer of the Board, to cause the same to be stopped at the State line, or, if found within the limits of the State, to cause such persons or goods to be removed from cars, stages, vessels, boats or other conveyances, and securely isolated and disinfected; and he may, if, in his judgment, the emergency is such as to demand it, call a meeting of the "Committee on Travel and Traffic," to which his action shall be submitted, with his reasons therefore, in writing. But, in cases coming under the jurisdiction of national or municipal quarantine authorities, he shall co-operate with said authorities in all such action.

## (R. IV.)

## Regulation of Travel and Traffic.

REGULATIONS IN REGARD TO DISINTERMENT AND TRANSPORTATION OF  
DEAD BODIES.*Disinterment of Bodies.*

RULE I. The removal of any body from its place of original interment is declared to be a nuisance dangerous to the public health, and is prohibited, unless the same be done under the direction and by permission of the local board of health or borough council.

RULE II. The above rule applies as well to the removal of a body from one grave or vault to another in the same cemetery as to its removal to another burial ground or place.

RULE III. The removal of dead bodies from any burial ground situated within the built-up portions of any city or borough is forbidden between April 1 and October 15.

RULE IV. The disinterment of the body of any person who died of any contagious or infectious disease is strictly prohibited, unless by special authority, and upon such conditions as the local board of health or borough council may impose.

*Transportation of Bodies.*

RULE I. The transportation of bodies of persons who shall have died from small-pox, Asiatic cholera, typhus fever or yellow fever is strictly forbidden.

RULE II. From October 15 to April 1, all other dead bodies may be

transported without restriction, except those who shall have died of diphtheria, scarlet fever, typhoid fever or measles, which must be enclosed, as prescribed in Rule III.

RULE III. From April 1 to October 15, all dead bodies, when presented for transportation, must be enclosed in air-tight zinc, copper or lead-lined wooden boxes, or in air-tight iron caskets; or, if in any other form of coffin, said coffin must be in a hermetically sealed box, enclosed in a manner satisfactory to the local board of health, health officer or borough council.

RULE IV. No person or article which has been exposed to the contagion can accompany the body.

RULE V. Every dead body must be accompanied by a physician's certificate of death, and a certificate from the shipping undertaker that the body has been prepared for transportation in accordance with the rules of the State Board of Health of the Commonwealth of Pennsylvania.

RULE VI. In receiving any dead body which has been shipped from beyond or within the States of New York, New Jersey, Delaware, Maryland, West Virginia or Ohio, or the Province of Ontario, the rules of the State or Provincial Boards of Health of the same must be respected, and their transit permits will be honored without subjecting the body to delay, provided such rules do not conflict with any of the preceding rules in these regulations.

RULE VII. The following shall be the form of a transit permit for the transportation of a dead body within, into, or out of, the limits of the Commonwealth of Pennsylvania:

NOTE.—The rules and regulations of the State Board of Health are laws to be obeyed by every individual in the State.

TRANSIT.

[Stub to be retained by official issuing Permit.]

TRANSIT PERMIT.

1. Issued to .....
2. Name of Deceased, .....  
(If a minor, give parents' name.)
3. Interment at .....
4. Date of Death, ..... Age, ....
5. Place of Death, .....
6. Cause of Death, .....
7. Certified by, ..... M. D.

(The size of this permit without the stub is 10x4 inches.)

FORM 7.

Commonwealth of Pennsylvania.

TRANSIT PERMIT. [For Public Carriers]

In the ..... County.

R. R. Agents and all other Carriers are Back of Permit.

Permission is hereby given to remove the remains of aged, ..... who died at ..... on the ..... day of ..... 188 ; the cause of death being ..... and a Transit Permit being asked for burial at ..... in the State of ..... (Signed by) .....

Name of Undertaker or person in charge of the Transit. .... (Official title.) ..... (P. O. address.) .....

This Permit must in all cases accompany the body to its Destination.

Coupon No. 2, to Transit Permit of ..... who died at ..... Before this body leaves, the Carrier or Transportation Agent will tear off this Coupon. If detached from the permit the Coupon must not be received. (See back of Permit.)

Coupon No. 1, to Transit Permit of ..... who died at ..... Before this body leaves, the Carrier or Transportation Agent will tear off and keep this Coupon. If detached from the permit the Coupon must not be received. (See back of Permit.)

TRANSIT PERMIT.

Issued at ..... Co., Pa.

Issued by .....

To whom issued, .....

Name of Deceased, .....

Date of Death, .....

Name of person or Carrier in charge, .....

Date of Transit, .....

(BACK OF ABOVE PERMIT.)

137- Railroad and Steamboat Agents, Ferry-Masters and all Carriers that convey the remains over the limits of the county where the death occurred will retain one of the Coupons hereto attached, and deliver the body only to the persons holding this permit. The name of the deceased must appear on the Coupons, which will be returnable to the city or place through or out of which the body is first conveyed, or to such authority as may be directed by the person who issued the Permit.

The 1st Coupon should be taken by the carrier who transports the body from the county where the death occurred, and the 2d should be taken by Carrier or Agent of Transportation upon the route beyond said county, and it may be so taken at either terminus of the distance over which the route of transportation extends, as the local sanitary regulations may require, but whoever detaches and takes said 2d Coupon must write across the back of the Permit, as well as upon the 2d Coupon itself in the space at the left of these directions, as follows:

2d Coupon taken at (Insert name of place or Station) by (Insert name and title of person.)

Such an indorsement will answer instead of further coupons whenever the body is conveyed; and the Permit is to be surrendered at the place of burial. It, as well as every Coupon, should be preserved.

2d Coupon taken at .....  
by .....

SECOND } taken at .....  
COUPON. } by .....

FIRST COUPON.

transported without restriction, except those who shall have died of diphtheria, scarlet fever, typhoid fever or measles, which must be enclosed, as prescribed in Rule III.

RULE III. From April 1 to October 15, all dead bodies, when presented for transportation, must be enclosed in air-tight zinc, copper or lead-lined wooden boxes, or in air-tight iron caskets; or, if in any other form of coffin, said coffin must be in a hermetically sealed box, enclosed in a manner satisfactory to the local board of health, health officer or borough council.

RULE IV. No person or article which has been exposed to the contagion can accompany the body.

RULE V. Every dead body must be accompanied by a physician's certificate of death, and a certificate from the shipping undertaker that the body has been prepared for transportation in accordance with the rules of the State Board of Health of the Commonwealth of Pennsylvania.

RULE VI. In receiving any dead body which has been shipped from beyond or within the States of New York, New Jersey, Delaware, Maryland, West Virginia or Ohio, or the Province of Ontario, the rules of the State or Provincial Boards of Health of the same must be respected, and their transit permits will be honored without subjecting the body to delay, provided such rules do not conflict with any of the preceding rules in these regulations.

RULE VII. The following shall be the form of a transit permit for the transportation of a dead body within, into, or out of, the limits of the Commonwealth of Pennsylvania:

NOTE.—The rules and regulations of the State Board of Health are laws to be obeyed by every individual in the State.



TRANSIT.

[Stub to be retained by official issuing Permit.]

TRANSIT PERMIT.

1. Issued to .....
2. Name of Deceased, .....  
(If a minor, give parents' names.)
3. Interment at .....
4. Date of Death, ..... Age, ....
5. Place of Death, .....
6. Cause of Death, .....
7. Certified by ..... M. D.

(The size of this permit without the stub is 10x4 inches.)

Commonwealth of Pennsylvania.

**TRANSIT PERMIT.** [For Public Carriers]

In the ..... County.

Permission is hereby given to remove the remains of ..... aged ..... who died at ..... on the ..... day of ..... 188...; the cause of death being ..... and a Transit Permit being asked for burial at ..... in the State of ..... (Signed by) ..... Name of Undertaker or person in charge of the Transit. .... (Official title) (P. O. address) .....

FORM 7.

Coupon No. 2, to Transit Permit of ..... who died at ..... Before this body leaves, the Carrier or Transportation Agent will tear off this Coupon. If otherwise detached from the Permit the Coupon must not be received. (See back of Permit.)

Coupon No. 1, to Transit Permit of ..... who died at ..... Before this body leaves, the Carrier or Transportation Agent will tear off and keep this Coupon. If otherwise detached from the Permit the Coupon must not be received. (See back of Permit.)

TRANSIT PERMIT.

Issued at ..... Co., Pa.  
Issued by .....  
To whom issued .....  
Name of Deceased .....  
Date of Death .....  
Name of person or Carrier in charge .....  
Date of Transit .....

(BACK OF ABOVE PERMIT.)

Railroad and Steamboat Agents, Ferry-Masters and all Carriers that convey the remains over the limits of the county where the death occurred will retain one of the Coupons hereto attached, and deliver the body only to the persons holding this permit. The name of the deceased must appear on the Coupons, which will be returnable to the city or place through or out of which the body is first conveyed, or to such authority as may be directed by the person who issued the Permit.

The 1st Coupon should be taken by the carrier who transports the body from the county where the death occurred; and the 2d should be taken by Carrier or Agent of Transportation upon the route beyond said county, and it may be so taken at either terminus of the distance over which the second stage of transportation extends, as the local sanitary regulations may require; but whoever detaches and takes said 2d Coupon must write across the back of the Permit, as well as upon the 2d Coupon itself in the space at the left of these directions, as follows:

2d Coupon taken at (insert name of place or station) by (insert name and title of person.)

Such an indorsement will answer instead of further coupons wherever the body is conveyed; and the Permit is to be surrendered at the place of burial. It, as well as every Coupon, should be preserved.

2d Coupon taken at .....  
by .....

SECOND } taken at .....  
COUPON. } by .....

FIRST COUPON.

(R. V.)

REGULATIONS IN REGARD TO THE INTER-STATE NOTIFICATION OF THE  
EXISTENCE OF INFECTIOUS AND CONTAGIOUS DISEASES.

The following are the resolutions adopted by the International Conference of Boards of Health, at Toronto, October 6, 1886, with slight verbal modifications:

WHEREAS, It is necessary for the protection and preservation of the public health that prompt information should be given of the existence of cholera, yellow fever or small-pox; be it *Resolved*,—

1. That it is the sense of the National Conference of State Boards of Health, that it is the duty of each State and Provincial Board of Health within whose jurisdiction any of said diseases may occur to furnish immediate information of the existence of such disease to boards of health of neighboring States and Provinces, and to local boards in such States as have no central board, in which the duty of notification shall lie upon the local boards.

2. That upon the prevalence of rumor of the existence of pestilential disease in any State or Province, if positive, definite information thereon be not obtainable from the proper health authorities, this Conference holds that the health officials of another State are justified in entering the before-mentioned State or Province for the purpose of investigating and establishing the truth or falsity of such reports.

3. That whenever practicable, the investigations undertaken under the preceding section shall be made with the coöperation of the State or local health authorities.

4. That any case which presents symptoms leading to serious suspicion of the existence of one of the afore-named diseases shall be treated as suspicious, and reported as provided for in cases in which the diagnosis is certain.

5. That any case respecting which reputable and experienced physicians disagree as to whether the disease is or is not pestilential, shall be reported as suspicious.

6. That any suspected case respecting which efforts are made to conceal its existence, full history and true nature, shall be deemed suspicious and so reported.

7. That in accordance with the provisions of the foregoing resolutions, the boards of health of the United States and Canada represented at this conference, do pledge themselves to an interchange of information as herein provided.

I certify that the foregoing resolutions were endorsed, and adopted as a regulation, by the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania, at a regular meeting held November 10, 1886.

BENJAMIN LEE,  
*Secretary.*

Addendum to regulation in regard to the inter-State notification of contagious and infectious diseases, adopted by the National Conference of State Boards of Health at Washington, September 8, 1887, and by the State Board of Health of Pennsylvania, November 9, 1887.

1. All communicable diseases, hereinafter mentioned, prevalent in certain areas, or which tend to spread along certain lines of travel, shall be reported to all State and Provincial Boards of Health within said areas or along said lines of communication.

2. In the instance of small-pox, cholera, yellow fever and typhus, reports shall be at once forwarded, either by mail or telegraph, as the urgency of the case may demand.

3. In the instance of diphtheria, scarlet fever, typhoid fever, anthrax or glanders, weekly reports when possible shall be supplied in which shall be indicated as far as known the places implicated and the degree of prevalence.





# INDEX.

## A.

	Page.
Acute lung disease and meteorology, . . . . .	143
Additions to library for 1886, . . . . .	35
Adulterations, &c., report on, . . . . .	49
Age and acclimation of soldiers, . . . . .	150
Allegheny furnace, drainage of, . . . . .	66
Altoona, drainage of, . . . . .	66
American mineral waters, . . . . .	148
Animals, infectious diseases of, . . . . .	135
Appendices, . . . . .	44
Atkinson, William B., caution in diagnosis of typhoid fever, . . . . .	233
inspection of Camp Hancock, . . . . .	54
inspection of Chester county, . . . . .	61
inspection of West Conshohocken, . . . . .	63
inspection at Sellersville, . . . . .	64
inspection at Bryn Mawr, . . . . .	68
inspection at Fernwood, . . . . .	69
inspection at Lansdowne, . . . . .	70
inspection of Gunner's Run, . . . . .	76
mortality tables of Philadelphia, . . . . .	101

## B.

Bacteriology and its therapeutic relation, . . . . .	155
Baltimore, quarantine at, . . . . .	274
Bills which failed to pass, . . . . .	123
Births in Reading, . . . . .	108
Boards of Health in cities, act for, . . . . .	121
Bodies, disinterment of, . . . . .	241
Bone boiling at Sellersville, . . . . .	64
Bryn Mawr, inspection at, . . . . .	68

## C.

Carlisle jail, inspection at, . . . . .	85
Catalogue of books and pamphlets, . . . . .	35
Chartiers, inspection at, . . . . .	71
Cheap earth closet, . . . . .	234
Chester county, inspections in, . . . . .	61
Cholera infantum and climate, . . . . .	147
Chrome yellow, poisoning by, . . . . .	289
Cities and towns, annual reports of, . . . . .	91
Climate and cholera infantum, . . . . .	147
Climate and the human organism, . . . . .	159
Climate and mineral waters, . . . . .	148
Climate preferable for phthisis, . . . . .	142
Climatic peculiarities and exemption from plagues, . . . . .	149

(R. V.)

REGULATIONS IN REGARD TO THE INTER-STATE NOTIFICATION OF THE  
EXISTENCE OF INFECTIOUS AND CONTAGIOUS DISEASES.

The following are the resolutions adopted by the International Conference of Boards of Health, at Toronto, October 6, 1886, with slight verbal modifications:

WHEREAS, It is necessary for the protection and preservation of the public health that prompt information should be given of the existence of cholera, yellow fever or small-pox; be it *Resolved*,—

1. That it is the sense of the National Conference of State Boards of Health, that it is the duty of each State and Provincial Board of Health within whose jurisdiction any of said diseases may occur to furnish immediate information of the existence of such disease to boards of health of neighboring States and Provinces, and to local boards in such States as have no central board, in which the duty of notification shall lie upon the local boards.

2. That upon the prevalence of rumor of the existence of pestilential disease in any State or Province, if positive, definite information thereon be not obtainable from the proper health authorities, this Conference holds that the health officials of another State are justified in entering the before-mentioned State or Province for the purpose of investigating and establishing the truth or falsity of such reports.

3. That whenever practicable, the investigations undertaken under the preceding section shall be made with the coöperation of the State or local health authorities.

4. That any case which presents symptoms leading to serious suspicion of the existence of one of the afore-named diseases shall be treated as suspicious, and reported as provided for in cases in which the diagnosis is certain.

5. That any case respecting which reputable and experienced physicians disagree as to whether the disease is or is not pestilential, shall be reported as suspicious.

6. That any suspected case respecting which efforts are made to conceal its existence, full history and true nature, shall be deemed suspicious and so reported.

7. That in accordance with the provisions of the foregoing resolutions, the boards of health of the United States and Canada represented at this conference, do pledge themselves to an interchange of information as herein provided.

I certify that the foregoing resolutions were endorsed, and adopted as a regulation, by the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania, at a regular meeting held November 10, 1886.

BENJAMIN LEE,  
*Secretary.*

## G.

	Page.
Garbage and offal, . . . . .	98
General Wayne, inspection at, . . . . .	83
Germer, E. W., trichinosis in Erie, . . . . .	281
Germer, E. W., notice of, . . . . .	191
Germer, E. W., report on Erie, . . . . .	91
Glanders in Philadelphia, . . . . .	280
Ground air, . . . . .	158
Growth of preventive medicine in Britain, . . . . .	146
Gum Tree, typhoid at, . . . . .	62
Gunners' Run, inspection at, . . . . .	76

## H.

Hamorton, typhoid at, . . . . .	61
How to avoid diseases, . . . . .	216
Huts and hut hospitals, . . . . .	151
Hunter, L. H., inspection at Derry, . . . . .	81
Hunter, L. H., inspection at Natrona, . . . . .	70
Hunter, L. H., inspection at Chartiers, . . . . .	71
Hunter, L. H., inspection at Tarentum, . . . . .	84
Hygiene in modern Egypt, . . . . .	140
Hygiene of railroads, . . . . .	150
Hygienic relations of ground air, . . . . .	158
Hygienic report of Ninth International Medical Congress, . . . . .	135

## I.

Importance of study of climatology, . . . . .	160
Infants, care of, . . . . .	229
Infants, cow's milk for, . . . . .	154
Infants, nutrition of, . . . . .	148
Infant mortality in Scranton, . . . . .	96
Infantile diarrhoea, . . . . .	116
Infectious diseases of domestic animals, . . . . .	135
Inoculation for yellow fever, . . . . .	150
Inspectors, reports of, . . . . .	53
Interpretation of law in regard to health officers, . . . . .	303
Inter-state notification, . . . . .	168, et. seq., 243, 279

## K.

Kibler, C. B., report on Corry, . . . . .	95
---	----

## L.

Lansdowne, inspection at, . . . . .	70
Lead poisoning, . . . . .	289
Lee, Benj., report on registration and vital statistics, . . . . .	46
inspection of executive mansion, . . . . .	77
at General Wayne . . . . .	83
report of conference on infectious diseases of domestic animals, . . . . .	135
from the international congress, . . . . .	163
from the health board conference, . . . . .	164
inter-state notification, . . . . .	279
glanders in Philadelphia, . . . . .	280
Leprosy, . . . . .	147
Lung disease and meteorology, . . . . .	153

## M.

Malarial fever, . . . . .	147
Manure heaps, . . . . .	99

Ration for the soldier, . . . . .	151
Rauch, J. H., endorsement of, . . . . .	48
Recommendations in care of infants, . . . . .	229
Reading, extracts from report on health of, . . . . .	101
Registration and vital statistics, . . . . .	46



	Page
Regulation of travel and traffic, . . . . .	241
Regulation of inter-State notification, . . . . .	243
Restricting disease, . . . . .	193
Rhoads, M. A., health of Reading, . . . . .	91

## S.

Sanitary authorities of United States, . . . . .	199
Sanitary bills passed, . . . . .	120
Sanitary crusade, . . . . .	47
Sanitary legislation, . . . . .	100, 109
Sanitary legislation, report on, . . . . .	50
Scarlet fever, . . . . .	116
Scarlet fever in Michigan, . . . . .	180
in Shenandoah, . . . . .	74
precautions against, . . . . .	219
Schooley shaft, report on, . . . . .	43
Scranton, report of health officer of, . . . . .	95
water supply of, . . . . .	304
Seasonable prevalence of pneumonia, . . . . .	143
Secretary, report of, . . . . .	7
Secretary's report on hygiene, . . . . .	164
Sellersville, inspection at, . . . . .	64
Sewage and diphtheria, . . . . .	153
Sewerage, report on, . . . . .	43
Sewerage for Pittsburgh, . . . . .	333
Sewers of Reading, . . . . .	167
Shenandoah, inspection at, . . . . .	74
Sibbet, R. Lowry, inspection of Carlisle jail, . . . . .	85
Slaughter houses at Covington, . . . . .	86
Soldier, age and acclimation of, . . . . .	152
best ration for, . . . . .	151
Stagnant pools, . . . . .	97
Standing committees, reports of, . . . . .	45
State hygiene, address on, . . . . .	245
State medicine and medical jurisprudence, . . . . .	141
Steam as a disinfectant, . . . . .	147
Stewart, D. D., report on chrome yellow, . . . . .	239
Stormont, D. W., notice of, . . . . .	192
Stretcher and sling, . . . . .	151
Surface water, . . . . .	167
Swiss Alps and pulmonary cases, . . . . .	157

## T.

Tarentum, inspection at, . . . . .	34
Transit permit, . . . . .	243
Transportation of bodies, . . . . .	242
Travel, regulation of, . . . . .	241
Trichinosis in Erie, . . . . .	231
Trichinosis, precautions against, . . . . .	225
Troy, inspection at, . . . . .	72
Typhoid fever, care in diagnosis of, . . . . .	233
in Chester county, . . . . .	61
precautions against, . . . . .	203
at Tarentum, . . . . .	54
at West Conshohocken, . . . . .	63
Tyrotaxon, . . . . .	154

	Page.
Climatology and medicine, . . . . .	158, 160
Coatesville, visit to, . . . . .	62
Collective investigation, . . . . .	196
College of Physicians of Philadelphia on Quarantine, . . . . .	265
Compendium of sanitary laws, bill for, . . . . .	120
Complaints acted on in 1887, . . . . .	311
Conferences and conventions, . . . . .	134
Constitution of the Board, . . . . .	313
Consumption in Reading, . . . . .	116
Contagious and infectious diseases, precautions against, . . . . .	214
Correspondence, . . . . .	303
Corry, report of health officer of, . . . . .	95
Covington, inspection at, . . . . .	88
Cow's milk for infants, . . . . .	154
Croup, . . . . .	116

## D.

Dead bodies, transportation of, . . . . .	305
Deaths in Erie, . . . . .	92
Deaths in Reading, . . . . .	110
Delaware river, quarantine of, . . . . .	258
Demographic effects of introduced diseases, . . . . .	147
Dengue in Syria, . . . . .	140
Derry, inspection at, . . . . .	81
Diphtheria, . . . . .	116
Diphtheria and sewage, . . . . .	153
Diphtheria in Michigan, . . . . .	179
Diphtheria, precautions against, . . . . .	209
Disinfectant, steam as a, . . . . .	147
Disinfectant solutions, . . . . .	207
Disinterment of bodies, . . . . .	241
Doe Run, typhoid at, . . . . .	62
Drainage of Altoona, . . . . .	66
Drainage, report on, . . . . .	48
Dudley, C. B., drainage in Blair county, . . . . .	66
Dudley, Pemberton, report by, . . . . .	45
report on adulterations, &c., . . . . .	49
Dysentery in Scranton, . . . . .	96

## E.

Engelman, David, report on legislation, . . . . .	50
Earth closet, . . . . .	235
Edwards, J. F., report on preventable diseases and the supervision of travel and traffic, . . . . .	46
Effects of overflow of the Mississippi, . . . . .	141
Epizootic in New Jersey, . . . . .	308
Erie, report of health officer of, . . . . .	91
Erie, trichinosis in, . . . . .	281
Excreta emptied into a stream, . . . . .	63
Executive Committee, report of, . . . . .	45
Executive mansion, inspection at, . . . . .	77
Explosives, report on, . . . . .	49

## F.

Fernwood, inspections at, . . . . .	69
Field hospitals, . . . . .	151
<i>Financial reports</i> , . . . . .	33

Addendum to regulation in regard to the inter-State notification of contagious and infectious diseases, adopted by the National Conference of State Boards of Health at Washington, September 8, 1887, and by the State Board of Health of Pennsylvania, November 9, 1887.

1. All communicable diseases, hereinafter mentioned, prevalent in certain areas, or which tend to spread along certain lines of travel, shall be reported to all State and Provincial Boards of Health within said areas or along said lines of communication.

2. In the instance of small-pox, cholera, yellow fever and typhus, reports shall be at once forwarded, either by mail or telegraph, as the urgency of the case may demand.

3. In the instance of diphtheria, scarlet fever, typhoid fever, anthrax or glanders, weekly reports when possible shall be supplied in which shall be indicated as far as known the places implicated and the degree of prevalence.

	Page.
Marriages in Reading, . . . . .	108
McKibben, D. J., inspection at Shenandoah,. . . . .	74
Measles in Shenandoah, . . . . .	75
Medical officers, reports of, . . . . .	56
Medical profession, note to,. . . . .	238
Michigan, restricting disease in, . . . . .	194
Milk in Reading, . . . . .	108
Mines, report on, . . . . .	48
Minutes, . . . . .	13
Murphy Howard, report by, . . . . .	48

N.

National quarantine, . . . . .	258
Natrona, inspection at, . . . . .	70
Need of care in diagnosis, . . . . .	62
New Jersey, epizootic in, . . . . .	308
New York, quarantine at, . . . . .	269
Nutrition of infants, . . . . .	148

**O.**

**O'Malley, John, report on Scranton, . . . . . 95**

P.

Pasteur's treatment and method, . . . . .	138
Payne, E. D., inspection at Troy, . . . . .	72
Covington, . . . . .	88
Philadelphia, glanders in, . . . . .	280
Philadelphia, mortuary tables of, . . . . .	101
Philadelphia, quarantine at, . . . . .	258, 273
Phthisis, preferable climate for, . . . . .	152
Pigs and pig pens, . . . . .	99
Pittsburgh, sewerage for, . . . . .	283
Plumbing, defective, . . . . .	99
Pneumonia, . . . . .	116
Pneumonia, seasonable prevalence of, . . . . .	143
Poisons, report on, . . . . .	49
Poisoning by chrome yellow, . . . . .	289
Ponds of foul water, . . . . .	107
Preventable diseases, report on, . . . . .	46
Preventive medicine in Great Britain, . . . . .	146
Private alleys, . . . . .	107
Proceedings of Boards of Health Conference, . . . . .	166

**Q.**

Quarantine, . . . . .	258
at New York, . . . . .	269
at Philadelphia, . . . . .	258, 273
at Baltimore, . . . . .	274
of the Delaware river, . . . . .	258

**R.**

Ration for the soldier, . . . . .	151
Rauch, J. H., endorsement of, . . . . .	48
Recommendations in care of infants, . . . . .	229
Reading, extracts from report on health of, . . . . .	101
Registration and vital statistics, . . . . .	46



	Page
Regulation of travel and traffic, . . . . .	241
Regulation of inter-State notification, . . . . .	243
Restricting disease, . . . . .	193
Rhoads, M. A., health of Reading, . . . . .	91

## S.

Sanitary authorities of United States, . . . . .	199
Sanitary bills passed, . . . . .	120
Sanitary crusade, . . . . .	47
Sanitary legislation, . . . . .	100, 109
Sanitary legislation, report on, . . . . .	50
Scarlet fever, . . . . .	116
Scarlet fever in Michigan, . . . . .	180
in Shenandoah, . . . . .	74
precautions against, . . . . .	219
Schooley shaft, report on, . . . . .	48
Scranton, report of health officer of, . . . . .	95
water supply of, . . . . .	304
Seasonable prevalence of pneumonia, . . . . .	143
Secretary, report of, . . . . .	7
Secretary's report on hygiene, . . . . .	164
Sellersville, inspection at, . . . . .	64
Sewage and diphtheria, . . . . .	153
Sewerage, report on, . . . . .	48
Sewerage for Pittsburgh, . . . . .	383
Sewers of Reading, . . . . .	107
Shenandoah, inspection at, . . . . .	74
Sibbet, R. Lowry, inspection of Carlisle jail, . . . . .	85
Slaughter houses at Covington, . . . . .	88
Soldier, age and acclimation of, . . . . .	152
best ration for, . . . . .	151
Stagnant pools, . . . . .	97
Standing committees, reports of, . . . . .	45
State hygiene, address on, . . . . .	245
State medicine and medical jurisprudence, . . . . .	141
Steam as a disinfectant, . . . . .	147
Stewart, D. D., report on chrome yellow, . . . . .	289
Stormont, D. W., notice of, . . . . .	192
Stretcher and sling, . . . . .	151
Surface water, . . . . .	107
Swiss Alps and pulmonary cases, . . . . .	157

## T.

Tarentum, inspection at, . . . . .	84
Transit permit, . . . . .	248
Transportation of bodies, . . . . .	242
Travel, regulation of, . . . . .	241
Trichinosis in Erie, . . . . .	281
Trichinosis, precautions against, . . . . .	225
Troy, inspection at, . . . . .	72
Typhoid fever, care in diagnosis of, . . . . .	233
in Chester county, . . . . .	61
precautions against, . . . . .	203
at Tarentum, . . . . .	84
at West Conshohocken, . . . . .	63
Tyrotrotoxon, . . . . .	154

## U.

Unionville, typhoid at, . . . . .	Page. 61
-----------------------------------	-------------

## V.

Vaccination in the incubative period, . . . . .	144
preventive power of, . . . . .	135
in yellow fever, . . . . .	146
Variola and vaccination, . . . . .	144
Vital statistics, resolution on, . . . . .	142

## W.

Waste material, . . . . .	107
Water analysis in the field, . . . . .	161
Water pollution and diphtheria, . . . . .	153
Water supply, &c., report on, . . . . .	48
Water supply of Reading, . . . . .	106
of Scranton, . . . . .	304
of military posts, . . . . .	162
West Conshohocken, inspection at, . . . . .	63
Wood, Dr. E. A., address on State Medicine, . . . . .	19,245
Work done by the Board, . . . . .	

## Y.

Yellow fever, inoculation for, . . . . .	150
vaccination in, . . . . .	146













LANE MEDICAL LIBRARY

To avoid fine, this book should be returned on  
or before the date last stamped below.

--	--	--





